# Games of the XXII Olympiad

Volume 2 Organisation

# Games of the
# XXII
# Olympiad

## 2

# Games of the
# XXII Olympiad
# Moscow
# 1980

Official
Report
of the Organising
Committee
of the Games
of the XXII Olympiad

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## Volume 2 Organisation

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President
of the Organising Committee
of the Games of the XXII
Olympiad
Ignati T. Novikov

# Introduction

From the outset, the organisers of the Games of the XXII Olympiad had been certain of the success of that worldwide celebration of sport, peace, and friendship. Their assurance reposed on the immense popularity of sports in the Soviet Union, and the devotion of Soviet people to the noble Olympic ideals. Moscow and other Soviet cities had hosted many a competition of the world's leading athletes and many other international public functions.

The Soviet state encourages physical education and sport, as this is indeed recorded in the Constitution of the USSR. More than 70 different sports recognised by the international sports community are practised in the Soviet Union. Physical education is entrusted to some 320,000 professional instructors. More than 220 higher and secondary specialised educational establishments, including 24 institutes of physical culture, train PT instructors, coaches, and trainers. By the time of the Moscow Games, the state's allocations to health and physical culture had climbed to an annual 14,400 million roubles.

In the period of preparations for the Games building of sports complexes went on all over the country on an unprecedented scale, including the simplest of facilities by chiefly the sportsmen themselves. During the pre-Olympic years mass competitions were held in all parts of the Soviet Union under the motto, Olympics Aren't For Olympians Only. Contestants were people of practically all age groups, with whole families participating. Many more millions of people joined the sports movement.

Backed by the planned socialist economy, the organisers of the 1980 Olympics had considerable advantages over their predecessors. The Soviet state had supported the idea of holding the Games of the XXII Olympiad in Moscow from the outset. The presidium of the USSR Supreme Soviet addressed a message to the president of the IOC pledging all due aid and support to the city authorities, the USSR Olympic Committee and all sports organisations of the Soviet Union in ensuring the success of the Games in accordance with the rules and regulations of the IOC. Construction of competition sites and other Olympic projects, manufacture of requisite equipment, apparatus and gear, and allocations for infrastructural expansion in Moscow and other Olympic cities, were worked into the State Economic and Social Development Plan of the USSR for 1976-1980. The USSR Council of Ministers and the councils of ministers of the Russian Federation, Estonia, the Ukraine, and Byelorussia instructed ministries and government departments to take charge of measures and projects related to the preparation and holding of the Olympics.

The Organising Committee for the Games of the XXII Olympiad laid emphasis on economy and effective use of competition sites and other projects after the Olympics. Furthermore, to cover organisational expenses and recoup the cost of Olympic projects, it drew up an economic-financial programme under which a set of money-gathering functions was carried out at home and abroad.

The enthusiasm of Soviet people had in many ways helped the organisers to cope with the preparations for the Games within the allotted time. Millions of hours of work was volunteered on Olympic building sites by the people of Moscow, Tallinn, Leningrad, Kiev, Minsk and other cities. They contributed their labour free, during off hours. The country's various youth organisations assumed responsibility for the Olympic construction, and brought out tens of thousands of volunteers. Building teams pledged to finish building ahead of schedule, and kept their promises without fail. The hundreds of enterprises in the country filling Olympic orders gave them top priority.

More than 70,000 Soviet citizens took part in the contests held by the Organising Committee for the official emblem and mascot of the Games, and that, too, was an illustration of the nationwide support of the Games of the XXII Olympiad.

Soviet people wanted to show hospitality to all who came to the Games. And did so in the true Soviet spirit—sincerely and amicably. Guests of the Moscow Olympics were afforded good opportunities to see the life of Soviet people, and to travel across the country. A lavish Cultural Programme had been prepared, reflecting the cultural achievements of the multinational Soviet Union. As planned, the festival of arts, became an organic supplement to the sports celebrations.

From the outset, the Organising Committee did its best to keep the world public informed of the progress of preparations for the Games, and to popularise the Olympic ideals. Close contacts were made with the mass media, whose personnel were afforded the best possible conditions to work in.

The Olympiad-80 organisers took account of the experience of the organisers of the previous Games. An OCOG-80 delegation attended the Games of the XXI Olympiad in Montreal and the Winter Games in Innsbruck and Lake

Placid. It went to various regional games and major international competitions, and visited Munich, the venue of the Games of the XX Olympiad. Furthermore, organisers of the 1972 and 1976 Games visited Moscow on the invitation of the Olympiad-80 Organising Committee.

The Organising Committee sought contacts with all National Olympic Committees recognised by the IOC to enlist their active participation and co-operation. All matters related to sports competitions were dealt with in close collaboration with the international Sports Federations, and continuous ties were maintained with the IOC. The provisions of the Olympic Charter were strictly followed.

The people of the Soviet Union wanted to ensure the highest possible degree of organisation and a high technical standard at the Moscow Games, which were to give new impulse to the noble ideas of friendship and peace. Now that the Games are over, it is safe to say that these objectives were all successfully reached.

At the IOC Executive Board Session in Lausanne on October 30-31, 1980, IOC President J. A. Samaranch thanked the Olympiad-80 Organising Committee for the splendid organisation of the Games, and efficient conduct of the competitions. Since this was accomplished in face of tremendous difficulties, all the more credit redounded to the Organising Committee and all other parties involved.

The President was pleased to note the unanimity of the Olympic movement, as proved by the decision taken at Lake Placid to hold the Games in Moscow as originally planned. Credit is also due to the National Olympic Committees that participated in the Games, many of them in face of opposition by their governments, and to the International Sports Federations that were faithful to the Olympic Charter and co-operated closely with the IOC and the Organising Committee.

Chapter **I.**

# The Organising Committee

The Organising Committee for the Games of the XXII Olympiad in Moscow was formed in March, 1975. It included the President, I. T. Novikov, Deputy Chairman of the Council of Ministers of the USSR; Vice-Presidents: V. F. Promyslov, Chairman of the Executive Committee of the Moscow Soviet of People's Deputies, S. P. Pavlov, Chairman of the USSR Sports Committee, V. I. Kochemasov, Deputy Chairman of the Council of Ministers of the Russian Soviet Federative Socialist Republic, A. K. Green, Deputy Chairman of the Council of Ministers of Estonian Soviet Socialist Republic; and members: V. D. Alekhin, K. A. Andrianov, V. F. Bogatikov, V. M. Borisenkov, V. M. Chebrikov, A. D. Dmitriyev, G. N. Fomin, B. P. Goncharov, M. V. Gramov, A. N. Katrich, P. D. Kondrashov, V. I. Koval, M. P. Kovalev, V. F. Kukharski, S. G. Lapin, S. M. Molokin, S. S. Nikitin, M. V. Posokhin, V. P. Prokhorov, O. B. Rakhmanin, M. Ye. Rakovski, M. L. Ryabova, B. N. Rogatin, G. M. Rogulski, A. G. Safonov, V. S. Shaposhnikov, N.A. Shchelokov, K. S. Simonov, V. G. Smirnov, S. L. Sokolov, A. A. Stanislavov, B. I. Stukalin, N. Ya. Sychev, N. V. Talyzin, Ye. M. Tyazhelnikov, I. I. Udaltsov, V. I. Vialias, V. N. Yagodkin, L. M. Zamyatin, I. N. Zemskov.

The OCOG numbered 45 members in all.

The IOC members in the USSR, V. G. Smirnov and K. A. Andrianov, were included on the Organising Committee together with S. P. Pavlov, President of the USSR Olympic Committee, as required by Rule 52 of the Olympic Charter.

All the OCOG members were leaders of sports and public organisations, executives of ministries and government agencies, whose participation in the preparation and staging of the Games was essential. At the same time, they possessed a great deal of managerial experience in such areas as sports, construction and architecture, transport, communications, power engineering, radio and television, finance, logistics, arts, information, services, and commerce.

The Organising Committee consisting of representatives from government bodies and of experienced leaders in the national economy, who possessed both professional knowledge and the required authority in their particular fields, made it possible for the OCOG to resolve efficiently the complex problems involved in the preparation of the Games of the XXII Olympiad and to ensure their eventual success.

**The OCOG-80's building in Gorky Street**

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For various reasons not connected with their activities in the OCOG, the following persons left the Organising Committee before the Games started: A. N. Katrich, P. D. Kondrashov, S. M. Molokin, M. Ye. Rakovski, M. L. Ryabova, A. A. Stanislavov, I. I. Udaltsov, and V. N. Yagodkin.

On the other hand, some other members were appointed: N. T. Arkhipets, A. V. Bachurin, A. Ye. Biryukov, V. A. Bykov, V. G. Bychkov, I. F. Denisov, P. Ye. Esipenko, M. D. Filonov, A. N. Kamenskov, I. K. Koziulia, V. N. Makeyev, V. F. Mitskevich, A. I. Nazarov, A. A. Norak, B. N. Pastukhov, V. I. Popov, I. I. Pronin, I. P. Rudoi, Ye. M. Rybinski, B. T. Shumilin, and L. N. Tolkunov.

The OCOG had grown to 58 members by the opening of the Games.

In compliance with Rule 51 of the Olympic Charter, on March 12, 1975, the duties of staging the Games of the XXII Olympiad in Moscow entrusted to the USSR Olympic Committee (NOC of the USSR) by the International Olympic Committee (IOC) were delegated to the OCOG just formed.

Thereafter, the OCOG was in direct communication with the IOC during the preparation and staging of the Games.

The major goal of the OCOG was to see that the Games of the XXII Olympiad were held on a high organisational and technical level. The tasks of the OCOG were set as follows:

— to develop a concept of planning and preparatory work for the Games meeting the requirement to make the most of the sports and other facilities already in existence in Moscow, to coordinate new construction with long-term plans for the city development, to ensure effective use of the Olympic sports installations and of other facilities after the Games;

— to coordinate all the arrangements to be made by the ministries, government agencies, state, public and sports organisations engaged in the preparations;

— to organise, in conjunction with the USSR Sports Committee, NOC of the USSR, and national sports federations, the competitions on the Olympic programme in conformity with the Olympic Charter and technical regulations of the IFs;

— to organise modernisation of the existing sports installations and construction of new sports and other facilities needed for the Games;

— to make the best possible arrangements for the reception, accommodation, and service to be provided for the competitors, officials, guests of





Part of the building of ACS "Olympiad" that housed the Headquarters for Control of the Games of the XXII Olympiad

The lobby of the ACS "Olympiad" building

honour, the media, and tourists coming to the Games;

— to provide the necessary conditions for the work of the media;

— to draw up the Cultural Programme of the Games of the XXII Olympiad and to ensure that it is carried out;

— to develop and realise the economic programme in order to offset direct costs of the organisation of the Games;

— to guarantee security of the participants and guests and to have public order maintained during the Games.

The Organising Committee acted as a public organisation enjoying the rights granted by the Constitution of the USSR.

Soon after the formation of the Organising Committee, its executive body, officially known as the Olympiad-80 Organising Committee (OCOG-80), was established. As specified by its Statute, the OCOG-80 had the rights of a national government agency and performed the following functions:

— it coordinated all the activities of the appointed ministries, government agencies, state, public, and sports bodies on all matters relating to the organisation of the 1980 Olympic Games;

— it supervised the design, construction and preparation of sports installations, technical and other Olympic facilities and the work of the ministries, government agencies, industrial enterprises, public organisations, and state institutions involved in the preparations for the Games;

— it communicated with the IOC, IFs, National Olympic Committees (NOCs) and other international and national bodies outside the Soviet Union as regards the organisation of the 1980 Olympic Games;

— it handled business arrangements for the Games with Soviet organisations and foreign firms, including the sale of television, radio and filming rights, the sale of licenses for the use of the official emblem of the Games and, in co-operation with the appropriate foreign-trade organisations of the USSR, signed contracts on the use of materiel and equipment for the Games free of charge or at reduced prices;

— it organised through ministries and government agencies the production, sale, and distribution of films, posters, post cards, and other printed matter, of Olympic stamps, medals, badges, souvenirs, etc.;

— it published and distributed bulletins, press releases and other information materials of the OCOG to the IOC, NOCs, IFs, news agencies and other international and national bodies outside the USSR;

— it accepted contributions from public organisations and individuals in the USSR and abroad, from foreign companies, as well as the revenue from lotteries, the sale of admission tickets, licensing, and other funds to be channeled into financing the organisation of the Games and the OCOG-80;

— it concluded agent agreements with foreign legal agencies and individuals on representation and protection of its interests outside the USSR;

— it set up settlement accounts and other types of accounts at the State Bank of the USSR, at the Construction Bank of the USSR, and at the Bank for Foreign Trade of the USSR and carried out the economic activity required for the OCOG-80;

— issued recommendations and instructions on the organisation of the Games for the participating ministries, government agencies and institutions to abide by.

The OCOG-80 as a legal body had fixed and current assets and could act as plaintiff or defendant in court or arbitration.

Based on the objectives of initial stage of preparations, OCOG-80's structure was defined and adopted in 1975.

The OCOG-80 was headed by the President and Executive Vice-Presidents. Specialised departments were set up to perform the main duties of the OCOG-80. The total staff of all these departments of the OCOG-80 did not exceed 100 persons in 1975:

| | |
|---|---|
| Top Management | 4 |
| Sports | 8 |
| Technical Service | 23 |
| Material and Technical Supplies | 5 |
| Public Relations | 5 |
| International Relations | 13 |
| Planning and Finance | 11 |
| Personnel | 5 |
| General Service | 12 |
| Office | 14 |

The OCOG-80 recruited experts with an impressive background of organising major events in various fields.

The basic framework of the OCOG-80 was refined over the years: some departments were reorganised or divided, new sectors added, objectives and functions defined more specifically as the preparations developed. Along with the structural changes, the OCOG-80 increased its staff.

In 1980, at the final stage of preparations, the OCOG-80 was comprised of 22 departments with 945 persons:

| | |
|---|---|
| Top Management | 8 |
| Construction | 46 |
| Technical Service | 40 |
| Sports | 57 |
| Public Relations | 61 |
| Olympic Press Service | 33 |
| Economic Programme | 41 |
| Ticket Programme | 22 |
| International Relations | 41 |
| Personnel | 52 |
| Material and Technical Supplies | 36 |
| Torch Relay and Ceremonies | 19 |
| Tallinn Branch | 47 |
| Services | 48 |
| Transport | 21 |
| Olympic Village | 58 |
| Accreditation | 32 |
| Administration and Network Planning | 34 |
| Protocol | 40 |
| Finance | 36 |
| Line Management | 126 |
| General Service | 24 |
| Interpreting Services | 23 |

The yearly development of the structure is presented in Chart 1.

**Chart I The Development of the Olympiad-80 Organising Committee Structure (1975-1980)**

**1975**
- Main Production and Technical Department
- Department for Sports Methodology
- Public Relations Department
- International Department
- Planning and Finance Department
- Personnel Department
- Book-keeping Department
- General Section
- Material and Technical Supplies Department
- Facilities Department
- Organising and Planning Section

**1976**
- Construction Department
- Service Department
- Technical Department
- Sports Department
- Tallinn Branch
- Public Relations Department
- International Department
- Protocol Section
- Planning and Finance Department
- Personnel Department
- Book-keeping Department
- Administration Department
- Material and Technical Supplies Department
- Facilities Department
- Department for Administration and Network Planning

**1977**
- Construction Department
- Olympic Village Department
- Service Department
- Technical Department
- Sports Department
- Tallinn Branch
- Public Relations Department
- International Department
- Protocol Section
- Planning and Finance Department
- Personnel Department
- Book-keeping Department
- Administration Department
- Material and Technical Supplies Department
- Facilities Department
- Department for Administration and Network Planning

**1978**
- Construction Department
- Olympic Village Department
- Service Department
- Transport Department
- Technical Department
- Sports Department
- Tallinn Department
- Torch Relay and Ceremonies Department
- Public Relations Department
- International Department
- Protocol Service Department
- Economic Programme Department
- Personnel Department
- Accreditation Department
- Financing Department
- Administration Department
- Material and Technical Supplies Department
- Facilities Department
- Department for Administration and Network Planning

**1979**
- Construction Department
- Olympic Village Department
- Service Department
- Transport Department
- Technical Department
- Sports Department
- Tallinn Department
- Torch Relay and Ceremonies Department
- Olympic Press Service Department
- Public Relations Department
- International Department
- Protocol Service Department
- Economic Programme Department
- Ticket Programme Department
- Personnel Department
- Accreditation Department
- Financing Department
- Administration Department
- Material and Technical Supplies Department
- Facilities Department
- Department for Administration and Network Planning

**1980**
- Construction Department
- Olympic Village Department
- Service Department
- Transport Department
- Technical Department
- Sports Department
- Tallinn Department
- Torch Relay and Ceremonies Department
- Olympic Press Service Department
- Public Relations Department
- International Department
- Protocol Service Department
- Economic Programme Department
- Ticket Programme Department
- Personnel Department
- Accreditation Department
- Financing Department
- Administration Department
- Translation Department
- Material and Technical Supplies Department
- Facilities Department
- Department for Administration and Network Planning

# The OCOG-80 Top Management Bodies

A general meeting of its members was the ultimate authority of the OCOG-80. It assembled 2 or 3 times a year to discuss and make decisions on major organisational issues. The first meeting, on March 7, 1975, discussed the main fields of activity and decided to establish two administrative bodies: the Presidium and the Executive Bureau. On August 4, 1975, it reviewed and approved a draft plan defining the main activities involved in the organisation and holding of the 1980 Olympic Games. It was decided to submit this plan to the USSR Government because it envisaged participation of various ministries, agencies, organisations and state institutions that were to be engaged in certain specific jobs and undertakings for the Games. The OCOG-80 was anxious to get these operations included into the State Economic and Social Development Plan for the Years 1976-1980 as well as into corresponding plans of the ministries, government agencies, organisations, and state institutions concerned.

The meeting of the OCOG-80 on January 4, 1976, approved its Statute. This key document remained unamended throughout the preparatory period. Any additional specific tasks set for the OCOG-80 and its divisions at different stages of organisation ensued from this Statute.

Later meetings dealt with the most urgent questions. Responses to the progress reports presented to the IOC Sessions by the OCOG-80 delegations were discussed. The OCOG-80 also assembled to hear the reports of observer missions sent to the Montreal Games and to deliberate on their proposals as to how to apply the experience of the Montreal organisers to the best advantage.

The OCOG-80 repeatedly reviewed the progress of preparations for the Games in Moscow, heard reports from the ministries, government agencies, and organisations entrusted with specific jobs in such areas as the modernisation and construction of the Olympic facilities, the manufacture of the required equipment and implements, and the hiring and training of service personnel.

The meeting convened shortly after the VII USSR Summer Spartakiade—an important step in the pre-Olympic preparations—took stock of that event, reviewed the results of testing many Olympic sports installations, new devices and equipment, the automated control system (ACS "Olympiad"), the Olympic Television and Radio Complex (OTVRC) and some other communications facilities.

Vladimir Promyslov, Chairman of Moscow City Soviet's Executive Committee and the OCOG's Vice-President, gave a report on the progress made in preparing the city for the Olympic Games and on additional measures to be taken on the basis of experience of the Spartakiade finals held in Moscow, which had attracted competitors and guests from 85 countries.

The last meeting took place on August 19, 1980. A detailed report on results of the Moscow Games was made by the President of the OCOG-80 Ignati Novikov who analysed the entire preparatory work and pointed out the high standards achieved in staging the Games in spite of the vicious campaign launched by the US Administration aimed at disrupting the Games in Moscow and splitting the international Olympic movement. The president noted the excellent performance of the departments and services of the OCOG-80 as well as of many administrative units of the ministries, governmental agencies and state institutions which had provided services for the Games. The president expressed his thanks to everybody who had taken part in the preparations for and staging of the Moscow Games.

The Presidium was formed to manage the current affairs of the Organising Committee during the preparations. It included: Ignati Novikov, President, Chairman of the Presidium; Vladimir Promyslov, Vice-President; Sergei Pavlov, Vice-President; Arnold Green, Vice-President; Viacheslav Kochemasov, Vice-President; Ivan Denisov, Executive Vice-President; Vladimir Popov, Executive Vice-President; Vitali Smirnov, Executive Vice-President; Vladimir Bykov, Vice-President; Vladimir Koval, Vice-President; Ivan Koziulia, Vice-President; Georgi Rogulski, Vice-President; Ivan Rudoi, Vice-President; Vladimir Bogatikov, Member; Boris Goncharov, Member.

The Presidium guided the activities of the OCOG-80 as well as of all participating organisations. Under its leadership, long-term plans and undertakings dealing with problems of organisation were outlined, the main concepts of the construction of the Olympic facilities, of the arrangements for the services to be provided for the Olympic participants and guests were defined, as were the framework for the cultural programme, for the development of international relations, and for the economic programme.

The Executive Bureau being a directing body, supervised both the operations of the OCOG-80's departments and the execution of the as-

**Presidium
of the Organising
Committee
of the Games
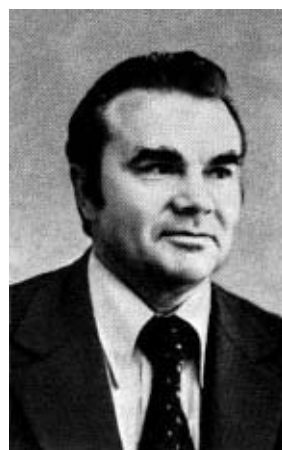of the XXII Olympiad**



**Ignati T. Novikov,**
President of the
Organising Committee,
Chairman of the Presidium

**Members
of the Presidium**





**Vladimir F. Promyslov,**
Vice-President of the
Organising Committee
**Sergei P. Pavlov,**
Vice-President of the
Organising Committee





**Arnold K. Green,**
Vice-President of the
Organising Committee
**Viacheslav I. Kochemasov,**
Vice-President of the
Organising Committee

**Vladimir Bogatikov,**
Member of the Organising
Committee

**Vladimir A. Bykov,**
Member of the Organising
Committee

**Boris P. Goncharov,**
Member of the Organising
Committee

**Ivan F. Denisov,**
Member of the Organising
Committee

**Vladimir I. Koval,**
Member of the Organising
Committee

**Ivan K. Koziula,**
Member of the Organising
Committee

**Vladimir I. Popov,**
Member of the Organising
Committee

**Georgi M. Rogulski,**
Member of the Organising
Committee

**Ivan P. Rudoi,**
Member of the Organising
Committee

**Vitali G. Smirnov,**
Member of the Organising
Committee

signments given to the ministries, government agencies, organisations and state institutions engaged in the preparations.

The Executive Bureau included: Ignati Novikov, President; Ivan Denisov, Executive Vice-President; Vladimir Popov, Executive Vice-President; Vitali Smirnov, Executive Vice-President; Vladimir Bykov, Vice-President, Vladimir Koval, Vice-President; Ivan Koziulia, Vice-President; Georgi Rogulski, Vice-President; Ivan Rudoi, Vice-President; Leonid Kesler, Chief of Department of Administration and Network Planning; Vadim Kondratiev, Chief of Department of Economic Programme; Vladimir Prokopov, Chief of International Relations Department; Oleg Pudrikov, Chief of Service Department; Vladimir Rodichenko, Chief of Sports Department; V. Sovva, Chief of Olympic Press Service Department; Ivan Kholod, Chief of Olympic Village Department; Vladislav Shevchenko, Chief of Department of Public Relations.

Thus, in addition to the President and Executive Vice-Presidents, the Executive Bureau was made up of the main department chiefs. Heads of other sectors were also invited to the meetings, among them: B. V. Bliznichenko, Finance; I. G. Ivanov, General Services; S. I. Kalashnikov, Line Management; Yu. V. Kartsev, Interpreting Service; A. A. Kislov, Torch Relay and Ceremonies; V. M. Mironenko, Ticket Programme; V. I. Mitroshin, Transport; S. N. Novozhilov, Protocol; V. A. Polishchuk, Technology;

O. V. Sapozhnin, Tallinn Branch; P. A. Voroshilov, Accreditation; V. M. Zaitsev, Material and Technical Supplies.

The activities of the Presidium and the Executive Bureau were planned three months in advance (for each quarter of the year) as was the preparation of the materials to be submitted for discussion and approval. The plans were drawn up by the Department of Administration and Network Planning on the basis of suggestions made by members of the OCOG-80, its Presidium and the Executive Bureau, by department chiefs, and by the participating ministries, government agencies and public organisations.

The quarterly plans were actually lists of topics for consideration by the Presidium and by the Executive Bureau. Deadlines for submission of the materials on each question to be discussed by the meeting were indicated and persons responsible for the preparation of the materials and speakers were named. The type of materials to be submitted had been established specifically by a directive from the President. Each question under discussion required a short memorandum on the subject and a draft resolution of the Presidium or Executive Bureau containing concrete decisions and assignments and listing those responsible for their execution.

These preliminary lists of main topics were considered at the meetings of the Presidium and the Executive Bureau. When approved, the lists were presented to the President for signing.

**The Presidium of the OCOG-80 discusses the Olympic Torch Relay**

In practice, the Presidium and the Executive Bureau had to make quick and concerted decisions on many issues that had not been included into the quarterly plans. Some problems required joint meetings of the Presidium and the Executive Bureau to adopt relevant resolutions.

The minutes of the meetings and resolutions adopted were circulated to all members of the Presidium and the Executive Bureau, to the department chiefs and other officials.

The meetings held from 1975 through 1980 and questions discussed are totaled in the Table below:

programme, information and public relations, planning and execution of the economic programme. At the second stage the Presidium monitored the execution of plans, projects, and various undertakings, particularly those connected with the modernisation and construction of competition sites, the Olympic Village, service facilities for the participants and guests of the 1980 Olympics. Great emphasis was laid on the hiring and training of service personnel. Accreditation of persons coming to the Games and organisation of security and public order systems were also

|  | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|
| Presidium meetings | 5 | 6 | 8 | 9 | 11 | 5 |
| Questions discussed | 23 | 43 | 42 | 50 | 47 | 27 |
| Executive Bureau meetings | 4 | 10 | 18 | 23 | 21 | 22 |
| Questions discussed | 37 | 93 | 122 | 173 | 185 | 149 |
| Joint meetings of the Presidium and the Executive Bureau | — | — | 1 | — | 2 | 1 |
| Questions discussed | — | — | 1 | — | 14 | 3 |
| Total number of questions discussed | 60 | 136 | 165 | 223 | 246 | 179 |

At the initial stage of preparations, the Presidium was mostly concerned with organising and planning the jobs, shaping the sports programme, with international relations, the cultural

under close scrutiny of the Presidium. It heard reports of heads of the participating ministries, government agencies, organisations, and state institutions on the progress of the prep-

**Lord Killanin, Ignati Novikov, and Juan A. Samaranch with the builders of the Olympic Village**

**Foreign ambassadors accredited in the USSR at a meeting with the OCOG-80 President Ignati Novikov**

arations to the Games. The Presidium resolved problems involved in the organisation of the Olympic Regatta in Tallinn, of the football tournament in Leningrad, Kiev, and Minsk, in the establishment of the route and organisation of the Olympic Torch Relay from Olympia to Moscow.

The final stage saw the Presidium concentrating on checking the availability of the sports installations and other facilities for the Games, particularly of the Main Press Centre, Olympic Television and Radio Complex, ACS "Olympiad", communications and transport facilities.

Prominent on the agenda were matters relating to the setting-up of the Olympic Village, to the accommodation of national teams in it, and to services to be provided for the participants and officials.

The Presidium had control over the organisations responsible for preliminary arrangements at the hotels assigned for the guests of honour, officials, the media, foreign and Soviet tourists, at the restaurants, cafeterias, cafés and bars, service establishments and shops.

The Presidium of the OCOG reviewed several times the scripts of the Opening and Closing ceremonies of the Games of the XXII Olympiad, examined the progress of preparations for the ceremonies. The Presidium discussed and settled all practical matters relating to the ceremonial opening of the 83rd Session of the IOC and to its regular meetings, and questions relating to the Congresses

of IFs and of other international and regional sports associations.

An organisational framework for the administration of the Games was outlined and established at the final stage under the direction of the Presidium.

At all the preparatory stages, the Presidium paid close attention to international relations, to the development and strengthening of contacts with the IOC, IFs, and NOCs recognised by the IOC, as well as with other international and regional sports associations. At its meetings the Presidium heard the reports of the heads of delegations returning from the IOC sessions or from talks with NOCs or IFs concerning arrangements for the Games and the development of the Olympic movement in general. The Presidium adopted specific resolutions on the results of each visit and approved undertakings which set the lines for future work.

The Executive Bureau met to discuss and settle matters ensuing from the objectives and functions of the OCOG-80 designed to ensure the success of the Games. Many important issues were examined by the Executive Bureau before they were submitted to the Presidium. The Executive Bureau concentrated mainly on the activities of the OCOG-80 departments. It regularly heard reports of their chiefs on the implementation of plans and assignments.

The Executive Bureau studied all the questions involved in the economic programme, ratified all the agreements between the OCOG-80

and foreign companies which defined and regulated the latters' participation in the preparations and granted rights for the title of the Official Supplier or the Official Sponsor of the Games of the XXII Olympiad.

The Executive Bureau took decisions on the make-up of the staff of the OCOG-80, approved budgets and followed upon them.

The Executive Bureau handled the recruitment of personnel for the OCOG-80 departments and for temporary jobs during the Games. All the appointments to and dismissals from the OCOG-80 departments were subject to approval by the Executive Bureau.

These collective discussions of the hiring of personnel were important for the creation of a body of skilled experts who successfully solved many problems of organisation and ensured the high standard of the Games.

The decision to form commissions as permanent public organisations for the entire period of the preparation and staging of the Games of the XXII Olympiad was made by the OCOG-80 at its first meeting on March 7, 1975.

The commissions were set up to assist the OCOG-80 in organisational matters. They were composed of OCOG-80 members, department chiefs, and of executives of ministries, government agencies, state and public organisations. They also included experts from various design offices, research institutions, and industrial enterprises.

The following commissions were established in the following areas:
competitions and support facilities;
capital construction;
television and radio broadcasting;
medical care;
welcoming and accommodation;
transport;
catering and retailing;
cultural programme;
public services;
automated control system and scoreboards;
communications;
logistics;
manpower;
preparation and staging of competitions in Tallinn;
security and public order;
foreign relations;
financing;
selection and production of articles with Olympic emblem;
public relations.

The total membership of the commissions reached 444 by 1980.

The commissions increased considerably the number of volunteers who had helped make the Games a success. The commissions were generally headed by Organising Committee members who were also heads of ministries and government agencies or top officials of other government bodies.

The main task of the commissions was to assist the OCOG-80 in the preparation and staging of the Games of the XXII Olympiad on a high organisational and technical level.

The commissions regularly discussed the arrangements for the Games at their meetings with the participation of organisations and institutions concerned. The commissions also submitted the conclusions on matters within their terms of reference for discussion by the OCOG-80 and its Presidium. The commissions had the following rights:

— to hear progress reports of representatives from the participating ministries, government agencies, and

organisations on the arrangements being made for the 1980 Olympic Games;

— to study the appropriate documents and progress made so far and to receive the required information on specific matters from the departments and sectors of the OCOG-80;

— to take decisions and issue recommendations in their respective fields and to send them out to ministries, government agencies, and organisations for consideration and action that might be deemed necessary;

— to apply to any ministry, government agency, or public organisation for advice and consultation on the organisation of the Games, inviting for this purpose scientists or engineers, when necessary, with the permission of the superiors of those experts;

— to set up working groups, with the approval of senior officers of the ministries, government agencies, or organisation concerned, in order to prepare proposals on certain specific problems.

While discussing general or overlapping questions, the commissions had the right:

— to ask for the opinions of other commissions who were obliged to consider such questions and to communicate their conclusions within the shortest time possible;

— to submit comments and suggestions on matters under consideration by other commissions.

The Presidium directed the activities of the commissions. The membership and the statute specifying the objectives and functions of every commission were subject for approval by the Presidium.

The Chairman of a commission prepared and held its meetings, invited representatives from ministries, government agencies, organisations, or institutions not on the commission when their presence was desirable, approved plans for the commission's work and supervised the implementation of the plans and decisions entered into the minutes.

The commissions met whenever necessity arose—once or twice every three months at an early stage and as often as once a month or more at the final stage of preparations.

The commissions drew on the experience of the previous Olympic Games as well as other major international and regional sports competitions, and had access to reports of the organisers of those events. The chairmen and members of the commissions were included in the delegations of technical observers of the OCOG-80 and other delegations which visited other countries to look into the preparations for and staging of the Olympic Games and other major sports events.

The commission chairmen attended meetings of the OCOG-80 and its Presidium; they were invited to the meetings of the Executive Bureau to discuss questions within their terms of reference.

The Chairman of a commission reported to the Presidium once every three months. These reports helped to detect flaws in the organisation, to make the work of the commissions more active and specific. The activities of the commissions were examined repeatedly by the OCOG at its meetings which every time adopted detailed resolutions to help make the commissions more efficient.

Thus, the commissions were effective public organisations which linked the OCOG with ministries, government agencies, public and state organisations and institutions. They made an important contribution to the completion of the sports programme, construction of sports installations, preparation of the city facilities for the reception and accommodation of the participants and guests of the Olympics. Other areas where the commissions were particularly helpful included technical facilities, transport, the economic programme, the cultural programme, and security.

The Republican Organising Committee for the Olympic Regatta (OCOG-OR80) was set up in Tallinn, the capital of Estonia, for the yachting competitions. It was headed by the OCOG-80's Vice-President Arnold Green, Deputy Chairman of the Council of Ministers of the Estonian SSR. It was made up of 52 representatives from sports and public organisations of the republic, of executives of republican ministries, agencies, and state institutions.

The Leningrad City Organising Committee and Republican Ukrainian and Byelorussian Organising Committees Olympiad-80, all headed by members of the OCOG-80, covered the preparations for the Olympic football matches in Leningrad, Kiev, and Minsk. The Leningrad City Committee was headed by M. D. Filonov, the First Vice-Chairman of the Executive Committee of the City Soviet of People's Deputies. Pavel Esipenko, Deputy Chairman of the Council of Ministers of the Ukrainian Soviet Socialist Republic, was the President of the Ukrainian Republican Organising Committee and Vladimir Mitskevich, the First Deputy Chairman of the Council of

# The Relations of the OCOG-80 with Other Bodies

Ministers of the Byelorussian Soviet Socialist Republic, led the Byelorussian Republican Organising Committee.

These organising committees were comprised of top officials of the Republican and Leningrad City organisations in charge of sports, construction, tourism, public catering, commerce, public order, etc. The organising committees numbered 24 members in Leningrad, 43 in Kiev, and 48 in Minsk by the time the Games started.

In addition, commissions under the supervision of organising committees, similar to those in Moscow, were set up. The members of the organising committees and of the commissions were volunteers.

The relationships of the Organising Committee with ministries, government agencies, organisations, and state institutions was determined primarily by the rights of an agency of the USSR granted to the OCOG-80 by the USSR Council of Ministers and regulated by the Constitution of the USSR.

In 1975, exercising those rights, the OCOG-80 made a proposal to the Council of Ministers of the USSR that a number of ministries, government agencies, organisations, and state institutions should be given certain specific assignments in connection with the preparations for the coming Olympic Games. The OCOG-80 had previously discussed this proposal with the bodies concerned and they agreed to carry out the assignments.

Attaching great importance to the 1980 Olympic Games, the USSR Council of Ministers issued several decrees between 1975 and 1980 to ensure that the preparations would be completed on time. Thus, the first decree issued in December, 1975 made some ministries and agencies responsible for the modernisation of the existing facilities and construction of new ones.

The main Olympic modernisation and construction jobs in Moscow were handled by construction organisations of the Executive Committee of the Moscow City Soviet of People's Deputies. They included the construction of the Olympic Village and of several new sports installations, modernisation of the Central Lenin Stadium and of other sports facilities. The same organisations were awarded the construction and modernisation of municipal, service, and urban development facilities. The USSR Ministry of Communications was made responsible for building communication facilities. The manufacture of equipment and devices was entrusted to the respective ministries.

The duties to build the Yachting Centre in Tallinn, to modernise stadiums in Leningrad, Kiev and Minsk were assumed by construction organisations of the Estonian SSR, and of the Executive Committees of the Soviets in respective cities.

The State Committee of the USSR Council of Ministers for Television and Radio Broadcasting was given the task of providing colour television and radio broadcasts from the Olympic venues to all five continents of the world. The Ministry of Instrument-Making, Automation Equipment and Control Systems (Minpribor) was charged with the development of an automated control systems and data processing for the Games. The hard-

ware was produced mainly by Min-pribor's plants.

As decreed by the USSR Government, engineers, technicians, and service personnel needed for operating and servicing the technology for building and maintaining the Olympic installations, for providing services to the participants and guests of the Games were trained at educational establishments under the USSR Ministry of Higher and Secondary Specialised Education and the State Committee on Trade Education of the USSR Council of Ministers. Other participating ministries and agencies also organised the training of personnel at specialised schools of their own.

The USSR Ministry of Public Health had the duties to outline and enforce sanitary measures and to organise medical care for all persons that might come to the Games.

The USSR Ministry of Culture was to provide entertainment for the Olympic participants and guests and to implement the cultural programme of the Games.

The USSR Council of Ministers gave assignments to many other ministries and agencies. About 60 ministries and many agencies were engaged in these or other arrangements.

All the ministries, agencies, state institutions, and organisations carried out the assignments given to them by the government decrees in close co-operation with the OCOG-80. The Organising Committee coordinated their activities, made sure that deadlines were met, laying great emphasis on strict compliance with the rules of the Olympic Charter, recommendations of the IOC and IFs. This was especially important for the design, construction, and modernisation of sports installations. The decisions and instructions of the OCOG-80 on various aspects of the organisation of the 1980 Olympic Games were mandatory for all the Soviet ministries and agencies as well as for individual enterprises, organisations and institutions regardless of their subordination.

The collaboration of the OCOG-80 with the participating ministries, government agencies, state institutions, and organisations was greatly furthered by the Committee's commissions made up mostly of representatives from the same bodies. The OCOG-80 was able to exert influence on all concerned with the Olympics through its commissions and, at the same time, to give assistance when difficulties arose.

## Planning and Supervision During the Preparations

From very start, the Organising Committee laid stress on defining a suitable system of planning the preparations. Proceeding from the experience of the USSR in applying modern methods for planning the national economy, for solving a multitude of social problems and taking into account the practices of planning the Munich and Montreal Games, it was decided to use computerised network planning techniques for the 1980 Olympic Games in Moscow.

The OCOG-80 departments were divided into two categories according to their objectives and functions. One category included the departments which made decisions and did the work required on their own, such as Sports, International Relations, Public Relations, Press Service, and Protocol. The other category performed their functions mainly by supervising the work of the participating ministries, agencies, public organisations, and state institutions. This included the Departments of Construction, Technical Facilities, Services, Transport, etc.

The network planning and management methods made it possible to efficiently plan the activities of the OCOG-80 departments and integrate in accurate detail the activities of the ministries and agencies involved. In addition, they provided for such a system of supervising planned undertakings that enabled the OCOG-80 top command to know the state of affairs at any point in time and immediately take steps to correct an operation if it lagged behind schedule.

The need to coordinate the activities of the OCOG-80 departments with those of the participating ministries, agencies, organisations, institutions, and commissions and to apply to the best advantage the network planning techniques required that the OCOG-80 set up the Department of Administration and Network Planning in 1977. Its functions were defined as follows:

— to advise and assist the OCOG-80 departments in constructing activity networks for preparatory operations, to draw up quarterly plans for the departments based on the networks, and to supervise their execution;

— to coordinate the operations of the departments in connection with the football tournament to take place in Leningrad, Kiev, and Minsk;

— to make sure that the required materials were prepared in time for the meetings of the OCOG-80 managing bodies, to have the minutes of the meetings recorded and to draft the resolutions to be adopted by these meetings on the subjects discussed;

— to monitor the implementation of the decisions taken by the OCOG-80, its Presidium, and the Executive Bureau at their meetings;

— to participate in the examination of operating plans and reports of the commissions and to offer recommendations on the activities of the commissions;

— to make proposals on updating the OCOG-80 structure and on the organisation of work of its departments before and during the Games;

— to compile the Overall Games' Programme in order to correlate all the main programmes and events to be staged during the Games.

The administration of preparations for the Games was divided into two stages. The first stage covered the period from June, 1975 through 1977, when the initial planning of the Games took place.

The second stage—from late 1977 till July, 1980—saw a day-to-day control of operations.

The purpose of the initial planning was to outline the main fields of activity for the OCOG-80 and, to this end, the master activity network and partial networks of the preparations were worked out.
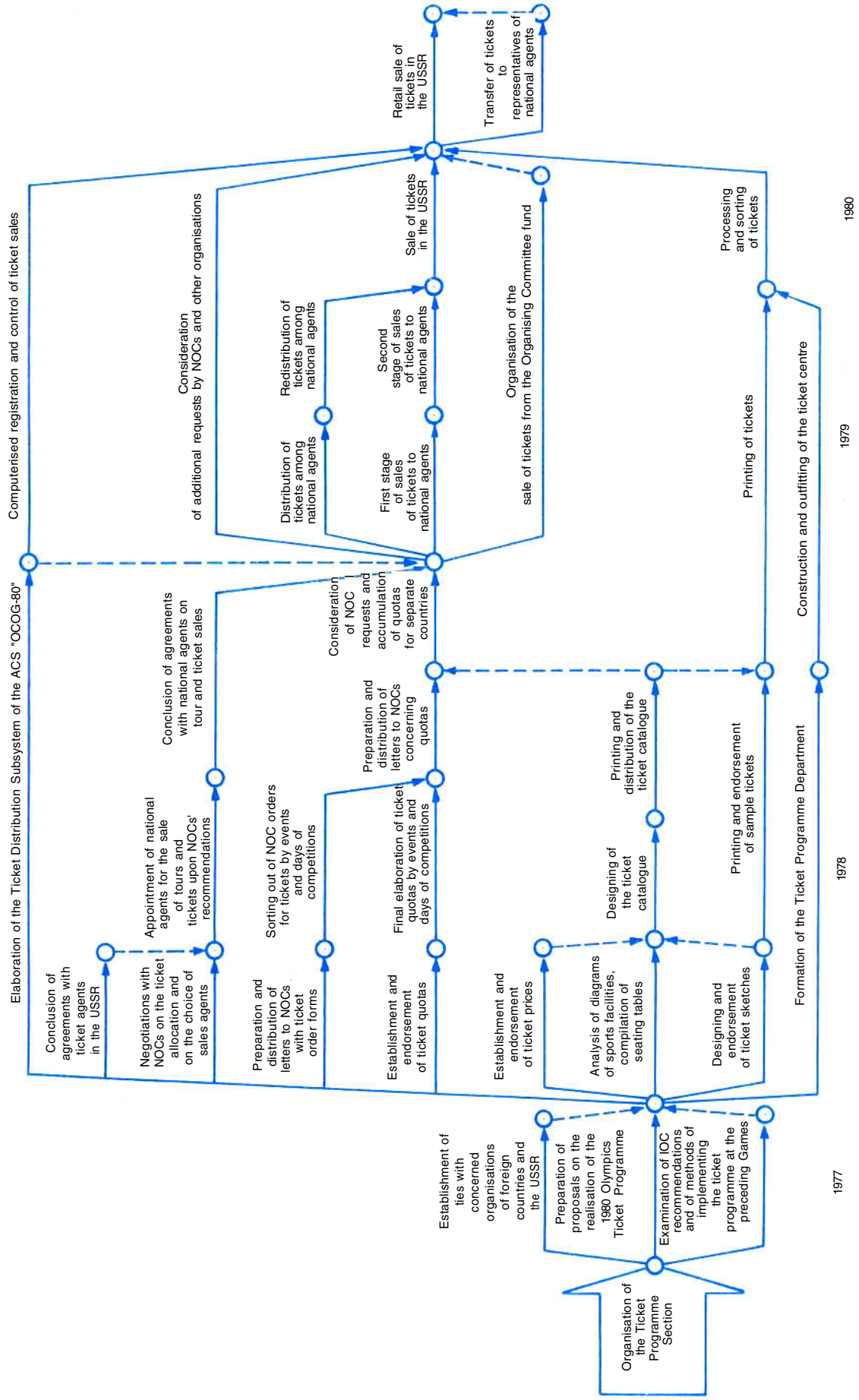
All the preparatory work consisted of several projects. Each project combined a number of operations to be performed by the OCOG-80 departments and by ministries and agencies in their particular areas.

The master network covered the main fields of activity of the OCOG. construction, sports, radio and television, communications, automated control system, services, international relations, public relations, financing and economic programme, logistics, personnel, the competitions in Tallinn, Leningrad, Kiev, and Minsk.

The master activity network included 90 projects that consisted of a total of 1,065 operations. It reflected and correlated the main phases of operations to be performed by various ministries and organisations. The network model allowed the establishment of practical deadlines for individual operation phases, correlating them to a common deadline for the arrangements to be completed in time for the Games. The master activity network was approved by OCOG-80 President on May 20, 1977.

The master network was made the basis for partial networks linked to 90 projects. Assisted by the Department of Administration and Network Planning, the OCOG-80 departments had completed the networks. They set the

**Diagram I. System Time-table for the Ticket Programme Project**

Computerised registration and control of ticket sales

Elaboration of the Ticket Distribution Subsystem of the ACS "OCOG-80"

Consideration of additional requests by NOCs and other organisations

Retail sale of tickets in the USSR

Transfer of tickets to representatives of national agents

Sale of tickets in the USSR

Redistribution of tickets among national agents

Second stage of sales of tickets to national agents

Distribution of tickets among national agents

First stage of sales of tickets to national agents

Organisation of the sale of tickets from the Organising Committee fund

Processing and sorting of tickets

Conclusion of agreements with national agents on tour and ticket sales

Consideration of NOC requests and accumulation of quotas for separate countries

Printing of tickets

Construction and outfitting of the ticket centre

Conclusion of agreements with ticket agents in the USSR

Appointment of national agents for the sale of tours and tickets upon NOCs' recommendations

Preparation and distribution of letters to NOCs concerning quotas

Printing and distribution of the ticket catalogue

Formation of the Ticket Programme Department

Negotiations with NOCs on the ticket allocation and on the choice of sales agents

Sorting out of NOC orders for tickets by events and days of competitions

Final elaboration of ticket quotas by events and days of competitions

Designing of the ticket catalogue

Printing and endorsement of sample tickets

Preparation and distribution of letters to NOCs with ticket order forms

Establishment and endorsement of ticket quotas

Establishment and endorsement of ticket prices

Analysis of diagrams of sports facilities, compilation of seating tables

Designing and endorsement of ticket sketches

Establishment of ties with concerned organisations of foreign countries and the USSR

Preparation of proposals on the realisation of the 1980 Olympics Ticket Programme

Examination of IOC recommendations and of methods of implementing the ticket programme at the preceding Games

Organisation of the Ticket Programme Section

1977    1978    1979    1980

details and the deadlines for about 7,000 operations. Thus, the entire period of initial planning was over in late 1977.

A network for the Ticket Programme project is shown in Fig. 1.

The operational control stage started in December, 1977. The tasks then were to ensure reliable supervision of the operations covered by the networks, to detect in time any deviations from the plans and to prepare proposals for the OCOG-80 top management on how the delays could be eliminated to complete all the arrangements on time.

In the course of the operational control and preparations for the Games, the projects based on network planning grew in number to 152. The Department of Administration and Network Planning based an updated master activity network for the final stage of preparations on those projects.

To improve the efficiency of the OCOG-80 staff and to ensure better monitoring of the plans to be implemented by the ministries and government agencies, as early as the beginning of 1978, Minpribor developed and put into operation a subsystem called Control of Preparatory Operations for the 1980 Olympics Based on Network Models. It was made part of the ACS Organising Committee and was used to design network models according to the operation deadlines and to draw up analytical documents and to outline draft quarterly plans for the OCOG-80 departments.

The network planning system proved to be very helpful for the organisation of the preparatory work of OCOG-80 staff from 1977 till mid-1980. Its main feature was a systems approach to management, where the process of preparations involving different areas (construction, communications, radio and television, data processing, international relations, information, personnel, sports, etc.) and different departments was regarded as one package of actions directed at a common goal—the success of the Games.

At the final stage of preparations, when the main jobs had been completed, the OCOG-80 departments analysed in detail all the operations still in progress for all the projects and defined more specifically their scopes and time required for completion. Thereafter, i. e. from March, 1980, the departments switched over to monthly planning. The assignments were broken down by weeks and later by days. Information on the execution of plans and individual assignments was presented to the top management on a weekly basis. The department chiefs gave accounts of each operation under way to the President or Vice-Presidents every week. Based on those accounts and information supplied by the Department of Administration and Network Planning, the OCOG-80 leaders took decisions in time to tackle the problems that arose.

The system of planning and supervision of execution adopted by the OCOG-80 altered and refined at various stages, has proved its value; it played a crucial organising role in the preparation and successful staging of the Games of the XXII Olympiad.

# Administration of the Games

In the middle of 1978, the OCOG-80 began discussions concerning the ways of organising the administration of the Games. The problem of developing the OCOG-80's structure was most essential among other matters considered, because precisely this structure was to become the basis for the system of administration of the Games.

The OCOG-80 believed that its structure during the Games should not be basically different from that at the final stage of preparations. It should only be more developed to enable the OCOG-80 departments to accomplish new tasks that may arise during the Games and ensure more effective engagement of the OCOG-80 personnel and all the employees performing new functions resulting from the new tasks.

The structure of the OCOG-80 staff for the final stage of preparations was defined by the Department of Administration and Network Planning in conjunction with other departments. It was approved in general by a meeting of the Executive Bureau on June 29, 1978.

A commission was formed headed by Vice-President Georgi Rogulski, to deal with the matters relating to the structure and functions of the OCOG-80.

The commission studied suggestions made by the departments, paying close attention to their tasks and functions for the period of the Games so that no important undertakings were missed but, on the other hand, no duplication of work allowed, which could lead to confusion or irresponsibility.

Several organisational versions were considered. An optimum version was submitted to the Executive Bureau which approved it on November 13, 1978.

Unlike the framework that existed in 1977 and 1978, this structure envisaged the establishment of services and directorates attached to departments. The reason for this was the great increase in the number of tasks and operations expected during the Games. That required a considerable enlargement of the staff. Depending on the objectives and functions planned for the departments, some services, initially small, had to be created as early as in 1979 but most came into existence in the second or third quarter of 1980.

A list of services and directorates to be set up indicating the number of persons to be employed was drawn up.

The structure of the OCOG-80 at the final preparatory stage and during the Games is shown in Chart 2.

The formation of the services and directorates began in the second quarter of 1979. Thirty eight services and directorates with a total of 797 employees were already functioning by January 1, 1980, and there were fifty-six of them employing 10,411 persons by the start of the Games.

Statutes regulating specific tasks and functions of every service and directorate were drafted and approved by the OCOG-80's top management.

Directorates in Leningrad, Kiev, and Minsk were established in the first quarter of 1979. They were structurally parts of the OCOG-80 but reported to local organising committees. The appointments of their directors were subject to approval by the Executive Bureau.

The directorates in Leningrad, Kiev, and Minsk were to organise preparations in order to ensure the organisational and technical success of the football tournament. They supervised the establishment of the appropriate sports installations, arrangements for the accommodation of players, officials, guests, the media and tourists.
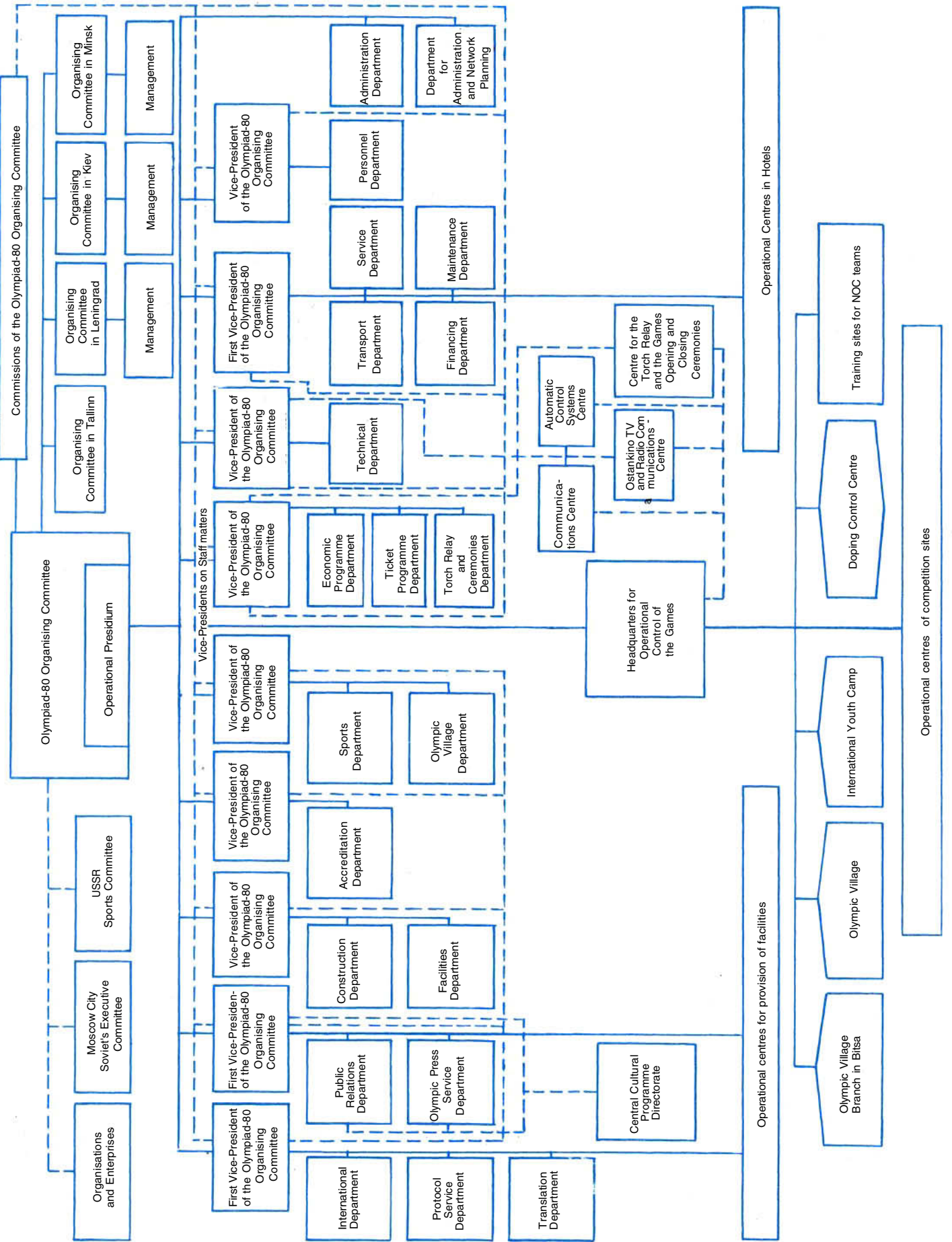
The preparation of eating facilities, personal services' establishments, communications, radio and TV were also under control of the directorates. The directorates coordinated their efforts with the departments of the Organising Committee of the Games of the XXII Olympiad.

The same directorates administered all the arrangements for the Olympic football tournament in Leningrad, Kiev, and Minsk during the Games.

The operational experience of the OCOG-80 in 1979 proved that its structure had been chosen correctly. In 1979 many complex assignments were carried out. The building of some Olympic facilities was completed during that year. Part of them, along with many technical systems and equipment, were tested during the finals of the Seventh USSR Summer Spartakiade.

The operation of the services and directorates just formed, as well as their interaction with the OCOG-80 departments and with the participating outside bodies during the Spartakiade, helped to eliminate some flaws in the structure and to complete the Games Administration Chart as early as January, 1980.

# Chart 2 The Organisational Structure and the Interaction of the Olympiad-80 Organising Committee During the 1980 Olympic Games

Commissions of the Olympiad-80 Organising Committee

Olympiad-80 Organising Committee

Operational Presidium

Organisations and Enterprises

Moscow City Soviet's Executive Committee

USSR Sports Committee

Organising Committee in Tallinn

Organising Committee in Leningrad

Organising Committee in Kiev

Organising Committee in Minsk

Management

Management

Management

Management

Vice-President of the Olympiad-80 Organising Committee

Administration Department

Department for Administration and Network Planning

Personnel Department

First Vice-President of the Olympiad-80 Organising Committee

Service Department

Maintenance Department

Transport Department

Financing Department

Vice-President of the Olympiad-80 Organising Committee

Technical Department

Vice-Presidents on Staff matters

Vice-President of the Olympiad-80 Organising Committee

Economic Programme Department

Ticket Programme Department

Torch Relay and Ceremonies Department

Automatic Control Systems Centre

Communications Centre

Centre for the Torch Relay and the Games Opening and Closing Ceremonies

Ostankino TV and Radio Communications Centre

Operational Centres in Hotels

Training sites for NOC teams

Doping Control Centre

Operational centres of competition sites

Headquarters for Operational Control of the Games

International Youth Camp

Olympic Village

Olympic Village Branch in Bitsa

Operational centres for provision of facilities

Central Cultural Programme Directorate

Vice-President of the Olympiad-80 Organising Committee

Sports Department

Olympic Village Department

Vice-President of the Olympiad-80 Organising Committee

Accreditation Department

Vice-President of the Olympiad-80 Organising Committee

Construction Department

Facilities Department

First Vice-President of the Olympiad-80 Organising Committee

Public Relations Department

Olympic Press Service Department

First Vice-President of the Olympiad-80 Organising Committee

International Department

Protocol Service Department

Translation Department

Ignati Novikov at the Games'
Control Headquarters meeting

The proposals on the organisation of administration of the Games were worked out by the Department of Administration and Network Planning in co-operation not only with other departments but also with the USSR Sports Committee, the Moscow City Soviet's Executive Committee, some ministries and agencies.

The proposals were approved by the Presidium of the OCOG-80 on February 5, 1980.

In accordance with the Games Administration Chart, the following new Olympic administrative units were set up:

Operational Presidium of the OCOG-80;

Games Control Headquarters;

20 Operational Bureaus of the OCOG-80 Commissions;

24 Operational Centres for Competitions;

17 Operational Centres at the support facilities;

Operational Centres at training facilities;

Communications centre;

ACS Centre;

OTVRC Centre;

Centre for the Olympic Torch Relay and Opening and Closing Ceremonies;

Doping Control Centre;

Central Directorate for the Cultural Programme.

This allowed to combine the centralised administration of the Games with decentralised control which required independent management of the events (sports, protocol, culture) on the spot. It was assumed that

problems which might arise would be solved at the levels of authority corresponding to the importance of a problem (Operational centre, HQ, Operational Presidium).

These bodies enjoyed assistance on the part of the services of the Moscow City Soviet's Executive Committee and the USSR Sports Committee, and various ministries and government agencies in staging the Games and related events through the direct involvement of the representatives of the latter.

The Operational Presidium was to consider and solve quickly major issues during the Games. It was composed of 11 members: Ignati Novikov, the OCOG-80 President; Vladimir Promyslov and Sergei Pavlov, the OCOG-80 Vice-Presidents; M. V. Gramov and F. M. Chebrikov, the OCOG-80 members; Vitali Smirnov, Vladimir Popov, Ivan Denisov, and Georgi Rogulski, Executive Vice-Presidents of the OCOG-80; and I. N. Ponomarev, a member of the Moscow City Soviet's Executive Committee; Leonid Kesler, the Executive Bureau member, was made the Executive Secretary of the Operational Presidium.

The Operational Presidium assembled for the first time on June 9, 1980. Prior to the Games, the Operational Presidium held 14 meetings, discussed and decided 61 important questions. It approved the membership of commissions for a comprehensive inspection of the Olympic facilities to check their readiness for the Games; operating schedules for the depart-

The Games' Control
Headquarters in session

ments, services, operational centres and other administrative units that were to prepare and submit information and accounts on trial competitions and related arrangements (the trial competitions were staged one month prior to the Games) to the Games Control Headquarters. The Operational Presidium checked if the Olympic facilities were ready for operation during the Games, in particular, the Olympic Village and the Main Press Centre. Close attention was given to the Olympic torch relay, the reception of the Olympic flame in Moscow, and the transportation of the duplicate flames to Tallinn, Leningrad, Kiev, and Minsk.

Matters relating to the Opening and Closing ceremonies of the Games, to the ceremonial opening of the 83rd Session of the IOC, to the Congresses of IFs, the reception and accommodation of arriving officials and dignitaries, to the events of the Cultural Programme and protocol were also dealt with.

Starting on July 20, 1980, the Operational Presidium began to meet daily at 8:00 a.m. By that time, its Secretariat had processed reports from the Headquarters and senior staff of the OCOG-80, prepared a summary of the progress of the Games for the previous day and a rundown of matters to be settled by the Operational Presidium.

The Operational Presidium held a total of 31 meetings at which it discussed and took decisions on 118 questions. The last meeting was held on August 6, 1980, to sum up the results of the Games.

To increase the efficiency of the standing commissions of the OCOG-80, special operational groups where formed inside them as "bureaus" headed by the chairmen of the same commissions. During the Games, the bureaus reported to the Vice-Presidents of the OCOG-80 and co-operated with the appropriate administrative units.

The Operational Centres for Competitions set up at all the venues played an important part at the final stage of preparations and, especially, during the Games. They created the necessary conditions for staging competitions successfully and in conformity with the regulations, and solved problems with regard to the organisation of competitions and supply of sports equipment and score-keeping devices. The centres also helped to organise eating facilities and retail outlets, medical care, maintenance of public order at the sites, etc. The structure of an Operational Centre for Competitions is shown in Chart 3.

The Operational Centres for Competitions were not structural divisions of the OCOG-80 but rather administrative units comprised of personnel from the OCOG-80 and members of the staff and organisations of the USSR Sports Committee, as well as employees of the directorates of the competitions sites. The centres also included representatives from services and organisations of the Moscow City Soviet's Executive Committee, of the

ministries, agencies, and other bodies responsible for arrangements at the sites within their terms of reference. Members of an Operational Centre were still employees of their respective departments and services in the OCOG-80, ministries, agencies, and organisations, but reported to the manager of the Centre. The managers of the operational centres were responsible for all scheduled events at their respective sites and had the rights needed to solve the problems which arose in the course of the Games.

The main objectives of the operational centres were defined as follows:

— to make a comprehensive check of sport installations and technology for readiness for the competitions and other scheduled events related to them;

— to ensure that the competitions on the Olympic programme were staged by the IFs in keeping with the regulations;

— to supervise the services and divisions in charge of competitor and spectator needs, public order, sanitation, etc.;

— to organise cooperation between the OCOG-80 departments and services and representatives from the ministries, and organisations responsible for certain arrangements at each site;

— to take decisions on the spot in order to ensure the accomplishment of the tasks entrusted to the Centre and, should any unforeseen problems or situations arise, to take measures to correct the situation;

— to present the Games Control Headquarters with daily information on scheduled events, on problems that arose and measures taken to solve them and correct the situation.

An Operational Centre for Competitions was headed by a manager who had deputies, including:

— head of the directorate for the particular sport;

— director of a sports installation;

— a representative of the Moscow City Soviet's Executive Committee;

— a representative of the public order forces.

The senior staff of the Operational Centres for Competitions also included coordinators from OCOG-80 departments and services, including Technical Facilities, Protocol, Olympic Press Service, Services, Transport and Administration and Network Planning.

The manager of each Operational Centre for Competitions reported directly to the Chief of the Games Control Headquarters.

Each Operational Centre for competitions also included:

— staff of the Operational Centre manager, which was made up of employees of the Sports Programme Department and of a group for gathering and preparing daily information; this group comprised employees of the Department of Administration and Network Planning;

— Sport Directorate consisting of the Secretariat of competitions, technical officials and assistants and a group for operation of the IF headquarters at the site (the directorate was headed by a director who was also the first deputy manager of the Operational Centre);

— a group of support and service personnel who reported to a deputy manager—the Director of the sports installation;

— a group of members of the public order forces accountable to a deputy manager;

— a group of personnel from municipal services which was under a deputy manager;

— a group for operation of technical facilities including ACS "Olympiad", television and radio, communications, city and long-distance telephone calls placed under the authority of a coordinator from the Technical Department;

— award squad and protocol personnel for servicing the designated categories of persons in the boxes and reception rooms of the installations under the authority of a coordinator from the Protocol Department;

— a press subcentre managed by a coordinator from the Olympic Press Service Department who was also the director of the subcentre.

The Operational Centre managers and their deputies were appointed by the OCOG-80 Presidium on recommendation of the Chief of the Games Control Headquarters with the consent of ministries, agencies and organisations in question. The personnel of the staff and other units of the Operational Centres was approved by the Chief of the Games Control Headquarters with the consent of the management of appropriate departments of the OCOG-80, ministries, agencies, and organisations.

The Operational Centres for Support were set up at the hotels assigned for the top officials and members of the IOC, top officials of the IFs and NOCs, guests of honour, and journalists. They were also established at the Main Press Centre, at the press centre of the OTVRC, airports, the House of Trade Unions where the 83rd

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┌─────────────────────────────┐        ┌─────────────────────────────┐
│ Head of the Operational     │────────│ Staff of the Head of        │
│ Centre                      │        │ the Operational Centre      │
└─────────────────────────────┘        └─────────────────────────────┘

┌─────────────────────────────┐                Deputies
│ Head of the Directorate for │
│ Sport—First Deputy Director │
│ of the Operational Centre   │
└─────────────────────────────┘

┌──────────────────┐   ┌──────────────────┐  ┌──────────────────┐  ┌──────────────────┐
│ Directorate for  │   │ Sports           │  │ Representative    │  │ Representative of │
│ Sport            │   │ Facility director│  │ of the militia    │  │ municipal        │
└──────────────────┘   └──────────────────┘  └──────────────────┘  │ management        │
                                                                     └──────────────────┘

                       ┌──────────────────┐
                       │ Technical and    │
                       │ service personnel│
                       └──────────────────┘

                Department    Coordinators

┌──────────────┐ ┌──────────────┐ ┌──────────────┐ ┌──────────────┐ ┌──────────────┐
│ Technical    │ │ Protocol     │ │ Olympic Press│ │ Service      │ │ Transport    │
│ Department   │ │ Service      │ │ Service      │ │ Department   │ │ Department   │
│              │ │ Department   │ │ Department   │ │              │ │              │
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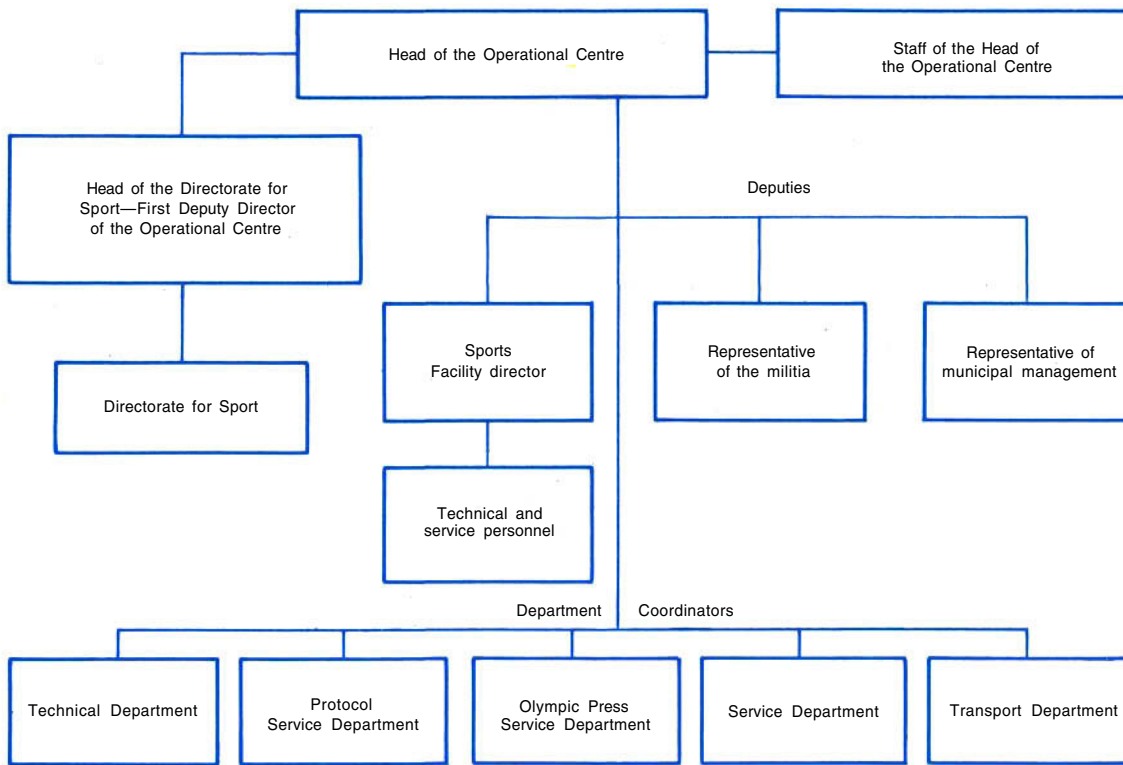
Session of the IOC was held, on the premises of Moscow University which hosted the IF congresses. The tasks and functions of the Operational Centres at the hotels were identical but differed somewhat elsewhere depending on the nature of the facility in question.

In addition, organisational units were created for direct management and coordination of jobs in several specialised fields, including:

— the Communications Centre to ensure the smooth performance of the communications equipment and operators of the Integrated Olympic Communications Network for all the users at the venues and support facilities as well as for the normal functioning of the radio and television and data processing hardware;

— the OTVRC Centre to supervise the preparations for and operation of radio and television broadcasts from all the venues and other facilities;

— the ACS Centre to direct the smooth and effective operation of the hardware and software, and the work of the operators and servicing personnel of the data processing and information systems.

The Communications Centre, the OTVRC Centre and the ACS Centre worked closely with the Games Control Headquarters, the OCOG-80 Vice-President responsible for technology, the operations bureaus of the commissions and departments of the OCOG-80. The centres were composed of representatives from all the organisations, ministries, and agencies concerned.

The Centre of Olympic Torch Relay, Opening and Closing Ceremonies and the Central Directorate of the Cultural Programme coordinated the activities of the units entrusted with jobs in those spheres.

The operational centres at the hotels ensured the required conditions for accommodation and services for the designated persons.

The mission of the Operational Centre at Sheremetyevo International Airport was to ensure proper arrival and departure arrangements for the participants and other persons attending the Games.

The Operational Centre at the Main Press Centre ensured most favourable conditions for the mass media representatives.

Every Operational Centre for Support reported to a Vice-President of the OCOG-80 responsible for the given field of activity.

The Games Control Headquarters was responsible for the staging of competitions on the Olympic program-me in accordance with IF's regulations, for observing schedules and for all events held at the venues. Georgi Rogulski, the OCOG-80's Vice-President, Sports, was appointed as its chief. His deputies were V. P. Zakhavin, the First Deputy Chairman of the USSR Sports Committee, A. P. Kostenko, Deputy Chairman of the Moscow City Soviet's Executive Committee, and Vladimir Rodichenko, the Executive Bureau member and Chief of the Sports Department. The membership included the chiefs of departments responsible for Technology, Olympic Village, Administration and Network Planning, Accreditation, Protocol, Logistics; deputy chiefs of the International, Personnel, Transport, Service, Construction, Torch Relay and Ceremonies, Olympic Press Service, Public Relations and Ticket Programme Departments, Head of the Department of Physical Education and Sports of the All-Union Central Council of Trade Unions, Chairman of the Central Council of the Dynamo Sports Society, Chairman of the Sports Complex of the USSR Ministry of Defence, a representative from the Commission on Security and Public Order.

The Headquarters was under the authority of the Operational Presidium. It was granted the right to make independent decisions on matters relating to competitions and trainings sessions and to their support. It directed the Operational Centres for Competitions, the Olympic Village and its extension at the Bitsa Equestrian Complex of Trade Unions, the International Youth Camp, and the Doping Control Centre. The Communications Centre, the ACS Centre, the OTVRC Centre, the Centre for Olympic Regatta in Tallinn, the directorates in Leningrad, Kiev, and Minsk also reported to the Headquarters during the Games.

The Games Control Headquarters spent the last month before the Games checking the readiness of the venues for competitions and training, paying a particular attention to the availability of the sports equipment and implements, score-keeping and measuring devices, reliability of the scoreboards and communications systems.

The Headquarters organised the work of the Operational Centres for Competitions and operational stations at training sites, inspected their preparedness for performing their functions, tested how well the members of the Operational Centres knew their duties.

The Headquarters supervised the commissions for acceptance of the sports installations with all their

equipment, which checked the readiness of the venues to competitions on the Olympic programme.

The Headquarters regularly examined the preparations at the venues, of the Operational Centres and support services, inspected their activities, took decisions and measures on the spot to correct any flaws. All this ensured that every competition site was prepared well and on time and produced for acceptance by the IF technical delegates before the designated deadline.

All the sites were accepted and given high marks.

During the Games, the Headquarters directed the activities of the Operational Centres for Competitions and operational stations at the training sites, coordinated their operation with that of the services and departments of the OCOG-80. The Headquarters also provided for co-operation of the Communications, ACS, and OTVRC centres, as well as of various administrative units, centres and services set up by the Moscow City Soviet's Executive Committee, USSR Sports Committee, by the participating ministries, agencies, and organisations.

The most important function of the Headquarters during the Games was to make quick decisions on problems that could not be solved by the operational centre and station managers as well as on problems arising at the Olympic Village, at the Yachting Centre in Tallinn, at the arenas of the football tournament in Leningrad, Kiev and Minsk. The Headquarters made decisions on those matters and problems and took steps to ensure that the decisions were carried out. The Headquarters cooperated in this, through the OCOG-80's Executive Vice-Presidents, with the Operational Centres for Support, the Communications, ACS and OTVRC centres, with the commission chairmen and members of their operational bureaus—executives of the ministries and government agencies responsible for certain operations during the Games (including transport, catering, medical care, personal services, etc.)

In cases when the Games Control Headquarters was unable to make a decision on any unforeseen problem it could submit the matter in question to the Operational Presidium of the OCOG-80. However, there were no such problems during the Games. The Headquarters informed the Operational Presidium daily on the progress of the Games, and on decisions taken. An information centre was set up to prepare information bulletins on the progress of the Games. In addition to

its staff of 8 persons (working in shifts round the clock), it had its representatives at every Operational Centre for Competitions and at the main centres for support (78 persons altogether working in two shifts).

The representatives filled in special summary forms prepared beforehand with data concerning the progress of competitions and other planned events at a competition site or other venue, and the services provided. They submitted the forms signed by the managers of the Operational Centres to the Headquarters immediately after the planned event was over. If any unforeseen problems arose which could not be solved by the Operational Centre management, corresponding reports were communicated to the Games Control Headquarters at once.

During the Games, the Games Control Headquarters submitted to the Operational Presidium a total of 18 information bulletins.

Every bulletin contained the following data: general information about the Olympic day; particulars of the competition events on the programme listing the medal winners and their results; information about the technical support of the Games, the operation of communications, broadcasting systems, ACS "Olympiad"; data concerning protocol, the presence of officials and guests of honour at the competitions, and award ceremonies; information about transport, operation of catering and retail outlets at the sites, medical care, results of the doping control service and the operation of press subcentres at the venues, and a short report on the Olympic Village.

Each section of the information bulletin recorded any so-called "irregular situations", i.e., deviations from plans, unforeseen problems and measures taken to tackle them. Each bulletin also recorded the number of spectators for the day in each sport and a total for the period since the beginning of the Games.

The daily meeting of the Headquarters began at 10:00 or 11:00 p.m. after the competitions were over and all the summary reports from the Operational Centres for Competitions, from the operational stations at the training sites and from the Olympic Village and Centres for Support had been received. The information bulletin signed by the Headquarters Chief or one of his deputies was delivered daily to the Secretariat of the Operational Presidium.

The following information was also delivered to the Operational Presidium

by the same time: about cooperation with the mass media during the day and a short review of the Soviet and foreign press from the Main Press Centre; reports from the Vice-Presidents dealing with services, transport, realisation of the economic programme and finances, technical support personnel, international relations and public order.

This detailed daily information made it possible for the Operational Presidium to make necessary decisions quickly and on time on the administration of the Games of the XXII Olympiad.

The structure of the OCOG-80 for the period of the Games and the adopted pattern of the administration of the Games proved their value completely. The structure operated smoothly and harmoniously at all levels.

# Overall Games' Programme

Every Olympic Games consist of many different events that take place in a fairly short period of time. They include sports competitions, opening and closing ceremonies, cultural events, meetings of the IOC and IFs, protocol programme, events at the Olympic Village and the International Youth Camp. The same persons often have to attend many of the above events.

Taking this into account and striving to create most favourable conditions for the persons coming to the Games that would permit them to take part in all the events offered, the OCOG-80 carefully planned the programmes of all the events, paying special attention to their dovetailing in time. Every programme was drawn up by the appropriate OCOG-80 department in co-operation with the commissions and organisations concerned. Some of the programmes were coordinated with the IOC and IFs as required by the Olympic Charter.

Two years prior to the Games, when the first versions of the programmes had been prepared, the Presidium of the OCOG-80 decided to publish the Overall Games' Programme as a brochure. The responsibility for making the Programme was assumed by the Department of Administration and Network Planning.

The Programme began from a master chart, which listed all major events of the Games in graphic form. The chart allowed to correlate all the programmes in time while they were updated and coordinated by various departments. The chart was made and amended throughout the rest of the preparatory period. Alterations were repeatedly introduced, following decisions taken during discussions of individual programmes. The alteration of the chart, in its turn, required some earlier decisions to be revised and corrections to be introduced into its component programmes.

All this made up the basis for the Overall Games' Programme where all the events were coordinated in time. Thus, it eliminated the possibility of different events being arranged simultaneously for the same category of persons, as it happened at some previous Olympic Games.

The master chart was made an integral part of the brochure "Overall Games' Programme". It consisted of master programmes for each day. It was enough to open the brochure on any day of the Games to find out what events, where and at what time were staged. It also contained competition schedules at all venues for the period of the Games.



The brochure "Master Activity Programme of the Games of the XXII Olympiad"

The Overall Games' Programme was made for the period from June 27 through August 10, 1980, i.e. from the day when the Olympic Village was opened in Moscow until it was closed.

The master chart covered a slightly longer period because it included the Olympic Torch Relay that started in Olympia in Greece on June 19, 1980.

A master daily programme contained the following information:

— hourly schedule of competitions indicating their venues, categories and groups of competitors, the number of medals contested for and times of the awards ceremonies, and regulations for the opening and closing ceremonies on the days when the ceremonies were to take place;

— schedules of the meetings of the IOC, IFs, international and regional sports associations indicating their venues;

— a list of protocol programme indicating the time and place;

— a list of events envisaged by the cultural programme for various categories of persons which they could attend free of charge indicating time and place for each;

— the programme of events at the Olympic Village and the International Youth Camp.

A one-day master programme is shown in Fig. 2.

The first pages of the brochure were taken by the sports programme of the Games presented in a table by days from July 19 through August 3, 1980, general information about Moscow, a map of the city indicating the competition sites, the main data about the Olympic competition sites with their addresses and public transport

# СВОДНАЯ ПРОГРАММА ИГР XXII ОЛИМПИАДЫ

24 июля, четверг
6-й день
Разыгрывается
19 комплектов медалей

| Соревнования | | Часы 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 | Места проведения |
|---|---|---|---|
| Заседания МОК | | | Гостиница «Москва» |
| Заседание руководящих органов региональных спортивных организаций | | | МГУ |
| Легкая атлетика | ИААФ | | Большая арена стадиона имени В. И. Ленина |
| Гребля академическая | ФИСА | | Гребной канал |
| Баскетбол | ФИБА | | МГУ Крытый стадион «Олимпийский» |
| Бокс | АИБА | | Крытый стадион «Олимпийский» |
| Гребля на байдарках и каноэ | ИКФ | | МГУ |
| Велоспорт | ФИАК | | Олимпийский велотрек |
| Конный спорт | ФЕИ | | Конноспортивный комплекс профсоюзов |
| Фехтование | ФИЕ | | Спорткомплекс ЦСКА (зал для фехтования) |
| Футбол | ФИФА | | Москва Большая арена стадиона «Динамо»; Ленинград Стадион имени С. М. Кирова; Киев Республиканский стадион; Минск Стадион «Динамо» |
| Гимнастика | ФИЖ | | Дворец спорта стадиона имени В. И. Ленина |
| Тяжелая атлетика | ИВФ | | Дворец спорта «Измайлово» |
| Ручной мяч | ИГФ | | Дворец спорта «Сокольники»; Дворец спорта «Динамо» |
| Хоккей на траве | ФИХ | | Малая арена стадиона «Динамо»; Стадион «Юные пионеры» |
| Борьба дзю-до | ФИД | | МГУ |
| Борьба классическая | ФИЛА | | Спорткомплекс ЦСКА (зал для борьбы) |
| Плавание | ФИНА | | Бассейн «Олимпийский» |
| Водное поло | | | Бассейн стадиона имени В. И. Ленина |
| Современное пятиборье | УИПМБ | | Конноспортивный комплекс профсоюзов |
| Стрелковый спорт | УИТ | | Стрельбище «Динамо» Мытищи |
| Волейбол | ФИВБ | | Малая арена стадиона имени В. И. Ленина; Зал «Дружба» стадиона имени В. И. Ленина |
| Парусный спорт | ИЯРУ | | Таллин Парусный центр |
| Протокольная и культурная программы | | | Ресторан «Киев» Зал Главного пресс-центра |
| Мероприятия в Олимпийской деревне | | | Кинозал № 1 Кинозал № 2; Концертный зал |
| Мероприятия в Международном молодежном лагере | | | Кинозал Открытая эстрада; Летний кинотеатр |

stops nearby. A schedule of competitions for each venue for the entire period of the Games was also included, as well as some information about Tallinn, Leningrad, Kiev, and Minsk and the Olympic venues in those cities.

The brochure contained lists of the Executive Board and Secretariat of the IOC, of the IOC members, top officials of the IFs and their technical delegates to the Games of the XXII Olympiad, lists of Presidents and General Secretaries of the National Olympic Committees recognised by the IOC, members of the OCOG-80, its Presidium and Executive Bureau.

Four thousand copies of the Overall Games' Programme were printed for free distribution. It was intended originally for the staff of the OCOG-80 and its administrative units, for the Games Control Headquarters, as well as for the executives and employees of the participating ministries, agencies, institutions, members of sports and public organisations concerned.

The Programme served as the basis for schedules and daily operations plans of individual divisions of the OCOG-80, its services and operational centres. It was one of the main documents for monitoring the planned events during the Games.

The Programme attracted attention of many IOC members, it aroused interest of chefs-de-mission and members of national teams, presidents, general secretaries and technical delegates of the IFs, observer missions from the organising committees of the future Olympic Games and games of some regions. The mass media, too, became interested. Therefore, 2,000 more copies containing the master chart were printed.

This editions eventually became a souvenir for those who attended the Moscow Olympics.

At the Executive Board session (Lausanne, 1980, October, 30-31) the President of the IOC Juan Antonio Samaranch said that the members of the Board thought high about the organisation and staging the Games of the XXII Olympiad. The contribution to the success of the Games made by the Organising Committee and all the parties involved can be hardly overestimated, especially if one takes into account the difficulties they had to overcome.

The President said, that the unanimous decision taken in Lake Placid to stage the Olympics where it was planned is an evidence of the cohesion of the Olympic movement. All NOCs which decided to participate in the 1980 Games in spite of the opposition from their respective governments, IFs closely working with the IOC and the OCOG-80 and observing the Olympic Charter, deserved respect and praise.

# Construction and Renovation of Olympic Facilities

Chapter **II.**
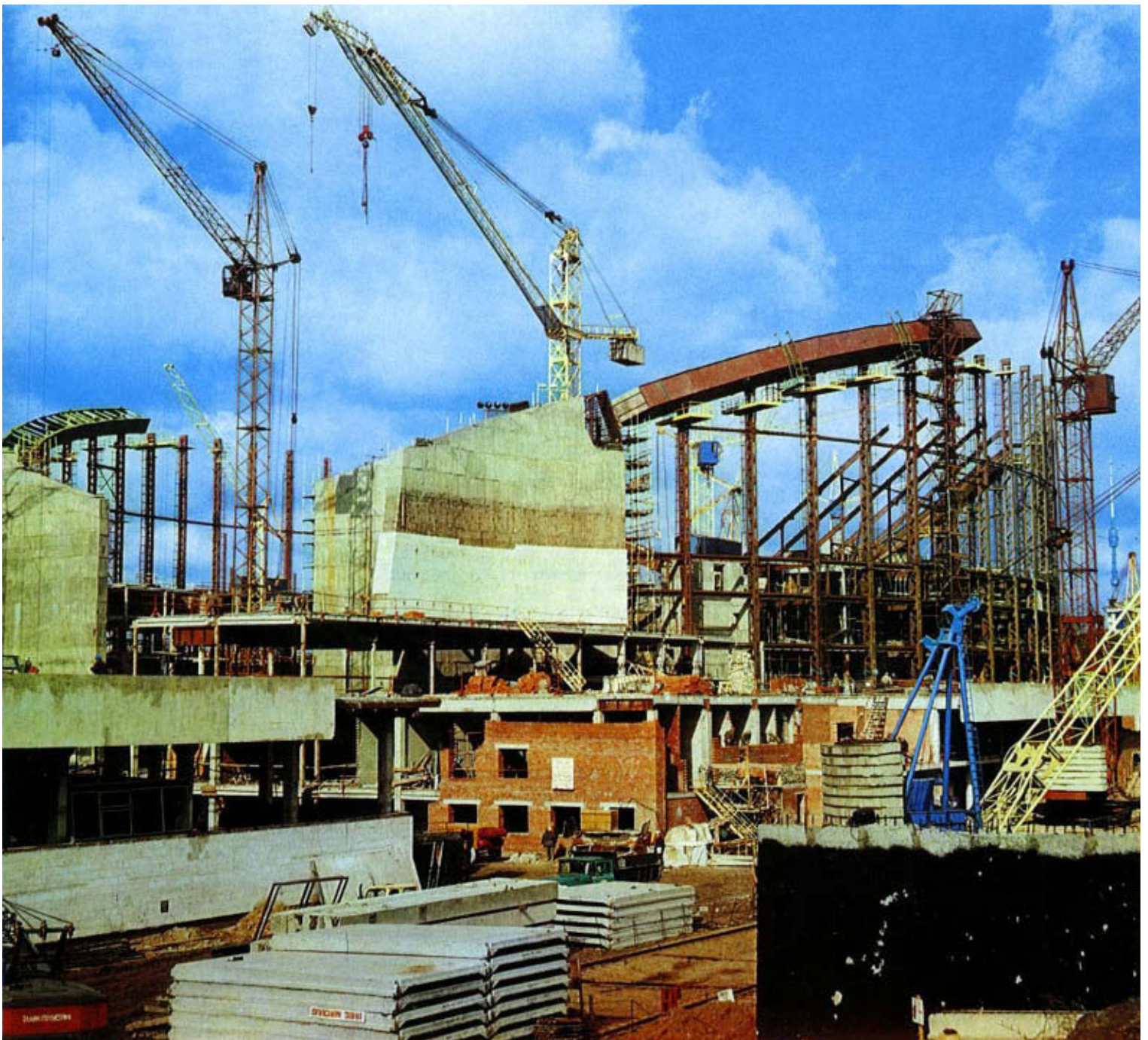
Members of the USSR Government headed by Leonid Brezhnev, Chairman of the Presidium of the Supreme Soviet of the USSR, visiting the Olympic facilities. At the Olympic Village

In 1974, when it invited the Games of the XXII Olympiad, Moscow already had enough sports complexes and installations to stage mass sports events similar to the Olympic Games in scope. The success of the finals of the USSR Summer Spartakiade, of the 1973 World Summer Student Games, World and European championships, of major international meets in various sports, as mentioned above, had repeatedly attested to thus. Furthermore, the Master Plan for the Development of Moscow, adopted in June, 1971, provided for a considerable increase in the number of the city's sports facilities by 1990.

The award of the 1980 Olympic Games to Moscow accelerated the construction of many sports complexes and individual installations already planned.

It should be noted that it did not reduce the scope of housing, recreational and utility construction. On the contrary, the 1980 Olympics accelerated the construction of some big modern hotel complexes and individual hotels. The infrastructure of the city was further improved and developed. New roads, communications lines and facilities, public catering outlets and other structures had been built in the capital by 1980.

Similar undertakings had been carried out in Tallinn, which hosted the Olympic Regatta, and in Leningrad, Kiev and Minsk, where matches of the Olympic football tournament were held.

In order to shape a more harmonious urban development pattern and to ensure equal living conditions in all city areas, the Master Plan divided Moscow into eight planning zones, each of which was to have a recreational and social centre of its own. The centres include, among other things, sports facilities designed to promote the physical education among local residents.

In view of the Games, it was decided to set up Olympic sports centres by 1979 and 1980 in the six planning zones, making the maximum use of existing facilities. New construction was carried out with as great economy of funds as possible and bearing in mind that efficient utilisation of the installations after the Games should be ensured.

The main Olympic centre was set up in the central planning zone and consisted of existing facilities, though modernised and renovated, and some new ones at the Central Lenin Stadium in Luzhniki. The remaining five were: in the northern planning zone—in the vicinity of Mir Avenue; in the northwestern—near Leningrad Avenue and in the Khimki-Khovrino area; in the western—in Krylatskoye; in the eastern—in the Sokolniki-Izmailovo area; and in the southern—on the edge of the Bitza Woodland Park. In addition, the Dynamo Shooting Range which is located in Moscow's green belt in Mytishchi, 47 kilometres away from the Olympic Village, had been modernised and renovated.

These centres constituted the basis for holding the Olympic Games.

This zoning of the Olympic construction was dictated by the main

concept of the Moscow Olympics, which was for all the facilities prepared for the Games to serve the health improvement and all-round development of the population in the post-Olympic period, to be used for sports and physical training by the Moscow residents, as well as for public events and entertainment.

The Games organisers did not try to outdo their predecessors in building ever more huge structures, but sought efficiency. They pursued a policy of making the utmost use of existing facilities for the 1980 Olympics. Only the most essential installations were built and only those that would not remain monuments to vanity, but would be in constant use for the benefit of the Soviet people.

This concept has been successfully implemented.

The entire architectural community was engaged in designing the new Olympic installations and the facilities to be renovated. In conjunction with the USSR Architects' Union, the State Committee for Civil Engineering and Architecture, and the Chief Architectural and Planning Department of Moscow, the OCOG-80 held a contest in late 1975 for the best architectural sketch or idea of the main Olympic sports complexes and installations. About 500 architects and engineers from 53 design offices took part in the contest. Their task was to suggest optimum architectural, structural, and engineering designs accommodating the requirements of the IOC and IFs also satisfying the condition that efficient use be made of all the facilities after the Games. The proposed structures were to meet modern architectural standards and, at the same time, to be economical. The best works were awarded prizes and served as a basis for Olympic projects.

Many planning institutions of different types participated in designing the Olympic facilities. Specialised design offices and research institutes took part in the development of some unique structural elements required to implement original architectural designs.

The problem of providing facilities for the 1980 Olympic Games was solved on the basis of the experience of previous organisers. To this end, the OCOG's observer missions, which included representatives of the design offices and construction organisations participating in the preparations for the Games of the XXII Olympiad, visited Munich and Montreal.

The designs of the Olympic facilities were based on extensive use of advanced prefabricated compo-

nents and industrialised construction methods. In addition, as time was short, in some cases the building proceeded on a "design-and-build" basis, with drawings being completed as work progressed.

Specialised construction organisations were engaged in building and renovating the Olympic facilities.

The work gained momentum as the Games approached. Thus, the progress of erection in percentage terms to the total Olympic construction, by years, was as follows: prior to 1976 (for projects started before they were included into the list of Olympic facilities)—2.4; in 1976—4.5; 1977—15.6; 1978—34.6; 1979—36.5; and in the first half of 1980—6.4.

The planning of construction and renovation of Olympic venues as well as supervision over the timely fulfilment of daily plans and the schedules was carried out by means of automated control systems and computers.

A total of twenty-five facilities were prepared for competitions under the programme of the Games of the XXII Olympiad, twelve of which were newly-built and thirteen renovated. Some new and renovated facilities were put into operation in 1979 and tested during the finals of the VII USSR Summer Spartakiade. All the work on new and renovated installations accommodated the requirements of the IFs.

The following installations were renovated in Moscow during the preparations for the Games:

Grand and Minor arenas, Palace of Sports and swimming pool in the Central Lenin Stadium;

Grand and Minor arenas of the Dynamo Central Stadium;

Young Pioneers' Stadium;

Canoeing and Rowing Basin in Krylatskoye;

Sokolniki Palace of Sports;

Dynamo Shooting Range in Mytishchi;



**Members of the USSR Government headed by Leonid Brezhnev, Chairman of the Presidium of the Supreme Soviet of the USSR, meeting the builders at the site of the Canoeing and Rowing Basin in Krylatskoye**

Newly-built sports facilities included:

Indoor Stadium and Swimming Pool of the Olympiiski Sports Complex;

Druzhba multipurpose Arena in the Central Lenin Stadium;

Sports Complex of CSCA (Central Sports Club of the Army) and the CSCA Palace of Sports;

Dynamo Palace of Sports in Khimki-Khovrino;

Olympic Velodrome, the cycling circuit and archery field in Krylatskoye;

Trade Unions' Equestrian Complex;

Izmailovo Palace of Sports.

The total seating capacity of the stands at the Moscow Olympic venues was 350,000.

The Olympic Yachting Centre, consisting of a harbour, Yachting-Club and a hotel which served as an Olympic Village, was completed in Tallinn in 1979.

The main stadia in Leningrad, Kiev and Minsk were assigned for Olympic football tournament matches:

Kirov Stadium in Leningrad;

Republican Stadium in Kiev;

Dynamo Stadium in Minsk.

These underwent substantial modernisation and renovation during the preparations for the Games.

In addition, a fifty-km course for the 100 km cycling team trial was laid out on the Moscow-Minsk Highway near Moscow immediately beyond the city limits. The marathon route and the twenty- and fifty-km walk routes followed the streets of the capital and embankments of the Moskva River. The start and finish were in the Grand Arena of the Central Lenin Stadium.

Forty-nine sports facilities, including twelve those where Olympic competitions were to take place, were selected and prepared for the training of national teams. They all had convenient transport connections with the Olympic Village and competition venues and had full equipment, sports implements and other facilities identical to those used in Olympic competitions.

In addition, the Bitza Park and woodland near the CSCA Equestrian Centre in Khimki-Khovrino were used for cross-country runs.

Apart from the football fields at the stadia in Leningrad, Kiev and Minsk where the Olympic football competitions were staged, additional pitches were prepared in these cities.

The list of sports facilities, either built or renovated during the preparations for the Games and made available to the sports delegations of various NOCs for the athletes' training is given on page 124.

It should be noted that construction of sports facilities in Moscow and other cities continued, as planned, after the Games. Another multipurpose arena with stands accommodating 5,500 spectators—the palace of Sports of the Krylya Sovetov Sports Society, was completed at the very end of the 1980 Olympic year in the western planning zone—the Setun area—as provided for in the Master Plan. The Palace can be used for training and competitions in wrestling, boxing, basketball, volleyball, handball, fencing, gymnastics, figure skating and ice hockey, swimming, and certain other sports. Some finishing work was resumed after the Games at the new Olympic arenas on Peace Avenue, in Krylatskoye, Bitsa and others. Additional facilities not needed for the Games were commissioned there. For example, a gymnasium equipped with the latest apparatus was completed in the Olympic Trade Unions' Centre in Krylatskoye for the coming competition season. The country's best gymnasts have already tried and highly appraised the new gymnasium. Lenin Sports and Concert Complex in Leningrad with stands for 25,000 has been finally completed. It can be used for many sports, including ice hockey and football.

Apart from sports installations, a number of support facilities were built in Moscow for the Games of the XXII Olympiad: the Olympic Television and Radio Centre and the Olympic Communications Centre in Ostankino, a building for the Novosti Press Agency, which was used as the Main Press Centre for the 1980 Olympics, a building for the ACS "Olympiad", various communications facilities and hotels.

A particularly important part of the Olympic construction was a new residential area built in the southwest of Moscow and used as an Olympic Village during Games of the XXII Olympiad. Its designers took every effort to provide the best possible comfort for the competitors, and builders implemented this project well and on time. Some 14,500 Muscovites have moved into that housing development, which has retained its name of Olympic Village after the Games.

The Chief Construction Department of the OCOG-80 was responsible for coordination of the activities of the ministries, government agencies and organisations participating in the design and construction of the Olympic facilities. The department also monitored the progress of the design and

construction work, organised and participated in discussions of designs and cost estimates, made sure that the regulations and recommendations of the IOC and IFs were strictly adhered to, organised and participated in the work of commissions for the acceptance of commissioned complexes and installations. To this end, the department set up divisions dealing with technology, job inspection, erection and installation, planning and cost accounting. As the objectives of the department were vital and the scale of work considerable, it was headed by one of the Vice-Presidents of the Organising Committee.

The Standing Commission for Capital Construction formed by the OCOG-80 was a public organisation that worked in intimate contact with the Chief Construction Department and other departments and commissions of the OCOG-80. The commission was composed of executives of the ministries and government agencies, design offices, top officials of construction and public organisations participating in the preparations for the Games. Leading figures in architecture and construction management were also among its members. This composition of the commission proved quite useful for efficiently solving problems involved in the design and erection of structures, often directly on building sites. The commission's members promptly settled matters relating to the prefabrication and timely delivery of structural elements and components, the hiring of personnel and many other problems. The commission regularly rendered effective practical assistance to designers and builders and its representatives took part in the acceptance of completed facilities.

The collaboration of the commission with the Chief Construction Department of the OCOG-80 was really helpful and contributed in many ways to the successful completion of all the work planned.

# The Central Lenin Stadium



The Central Lenin Stadium was built in 1956 for the finals of the First USSR Summer Spartakiade. Many international and national competitions in a variety of sports, including world, European and USSR championships, have been held there since.

After 20 years of intensive use, the facilities comprising the complex required modification and renovation. This work was carried out during the preparations for the Games of the XXII Olympiad, following the instructions and recommendations of the IOC and IFs. The modernisation was to ensure comprehensive utilisation of the stadium for sports and physical training.

The Central Lenin Stadium, covering an area of 180 hectares, is conveniently situated inside a bend of the Moskva River near Luzhnetskaya Embankment and is well connected with other areas of the capital by public transport. A high embankment of the

**View of the Central Lenin Stadium from Lenin Hills**
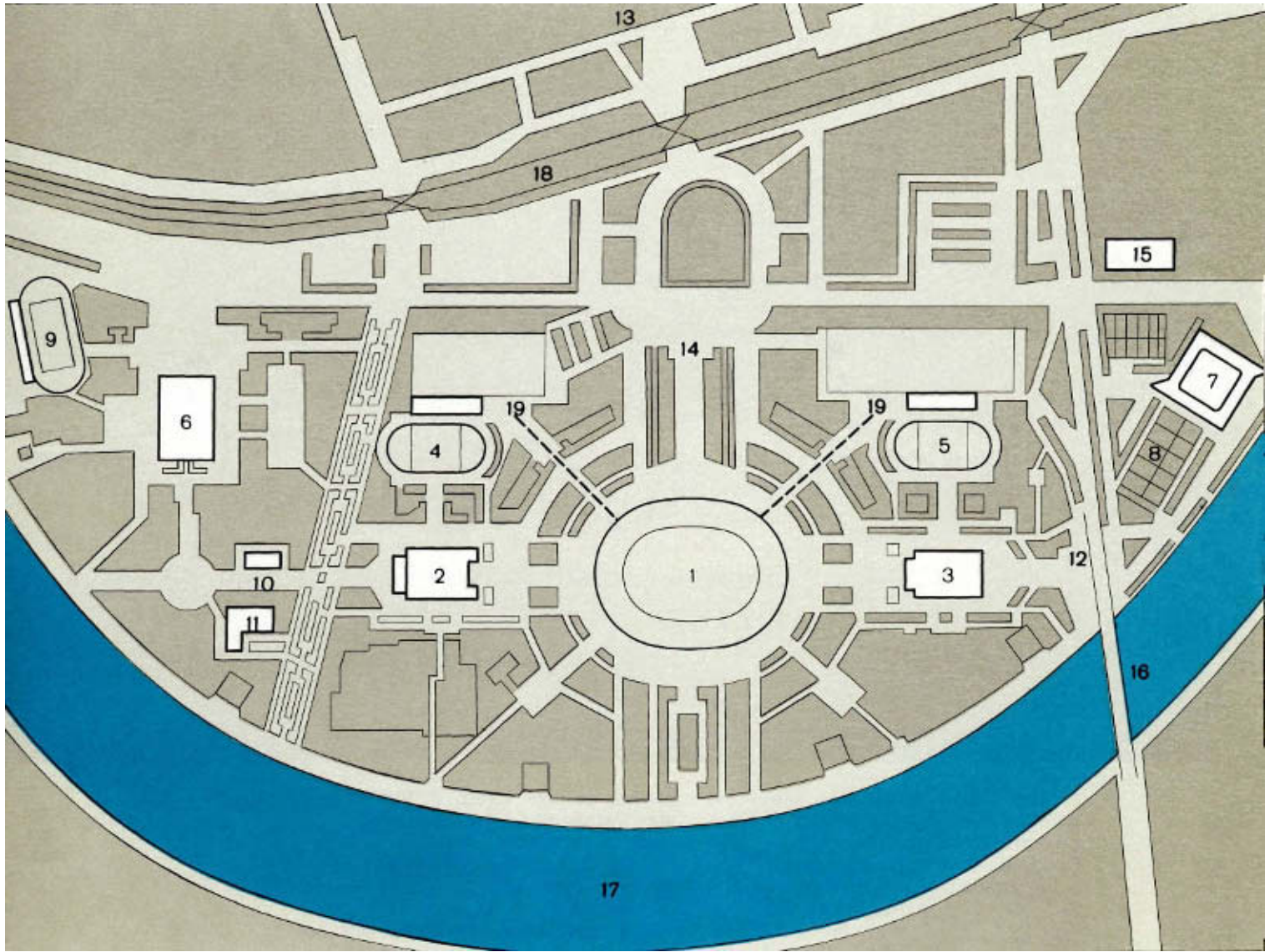
Circular Railway screens the stadium from city buildings and the greenery covering over 70 per cent of the stadium grounds allows Muscovites to enjoy a park landscape.

The transport facilities provided for spectators during the Games included metro, trolleybus and bus routes, and taxis. Tourists were brought to the stadium by special buses and cars. River boats were also used. Parking lots for 5,500 cars and 700 coaches were set up at the approaches to the stadium.

The main structures of the stadium—the Grand and Minor arenas, the swimming pool and the Palace of Sports—were renovated to accommodate the needs of the sports on the Olympic programme. The equipment was modernised to meet the recommendations and regulations of the IFs and more comfortable facilities were made available to competitors, spectators, officials, and the media. The installations were equipped with the latest means of communication.

The modernisation project for the sports complex in Luzhniki was conceived by the Moscow Research and Design Institute of Cultural, Recreational, Sports, and Health Facilities.

**Central Lenin Stadium**
**General Layout**
1. Grand Arena
2. Minor Arena
3. Swimming pool
4. Northern training area
5. Southern training area
6. Sports Palace
7. Druzhba Multipurpose Arena
8. Tennis courts
9. Children's stadium
10. Refrigeration plant
11. Kristall skating rink
12. Leninskiye Gory Metro Station
13. Sportivnaya Metro Station
14. Main entrance
15. Building of ACS "Olympiad"
16. Metro bridge
17. Moskva River
18. Circular railway
19. Passages for athletes from training areas

# Grand Arena

The Grand Arena was the focal point of the Olympic Games in Moscow. It hosted the traditional Olympic Opening and Closing ceremonies, track-and-field competitions, football finals and the match for the first and second places, and the individual horse-jumping competition. The biggest structure of the complex, the Grand Arena, dominates its general architectural appearance.

The Grand Arena contains a football playing field of 105 by 68 metres, a 400-m track with 8 lanes and four areas well equipped for jumping and throwing. The arena is elliptical, its major axis being 301.4 m long. The grandstands, designed so that the competition site could easily be observed from any seat, accommodate 100,000 spectators in 73 to 78 rows. The upper rows are sheltered by a 10-m overhang. Central boxes for referees and officials, press boxes, and commentators' booths were provided in the western stands. During the Opening and Closing ceremonies the central part of the eastern stands was given over to the tableau displays, and to accommodation for the bands.

Athletes' and technical officials' quarters, service and equipment rooms were situated under the grand-

stands on five levels. A VIP lounge was installed in a 66x18-m hall, originally designed for athletics training, on the ground floor. Fourteen large gyms, a cinema, and restaurants are located on the second floor. The third floor houses a hotel for 360 guests. An exercise therapy dispensary is located on the ground floor not far from the VIP lounge. A first-aid station is provided for competitors and spectators. The same floor houses technical facilities (the heating unit, forced ventillation chambers, power supply, etc.) and the public address centre.

Twenty-eight positions equipped with permanent cable outlets were set up for television cameramen on the arena.

The space under the western and eastern grandstands was replanned during the modernisation of the Grand Arena to accommodate competitors, officials and distinguished guests. The supports of the grandstands were reinforced and a new wet seal of cast-in-situ self-stressing concrete was placed over the area under the grandstands. Spectator seats were entirely replaced. Plastic chairs were mounted in the boxes for officials and dignitaries on the western grandstands.

Special desks with television monitors were installed for the press
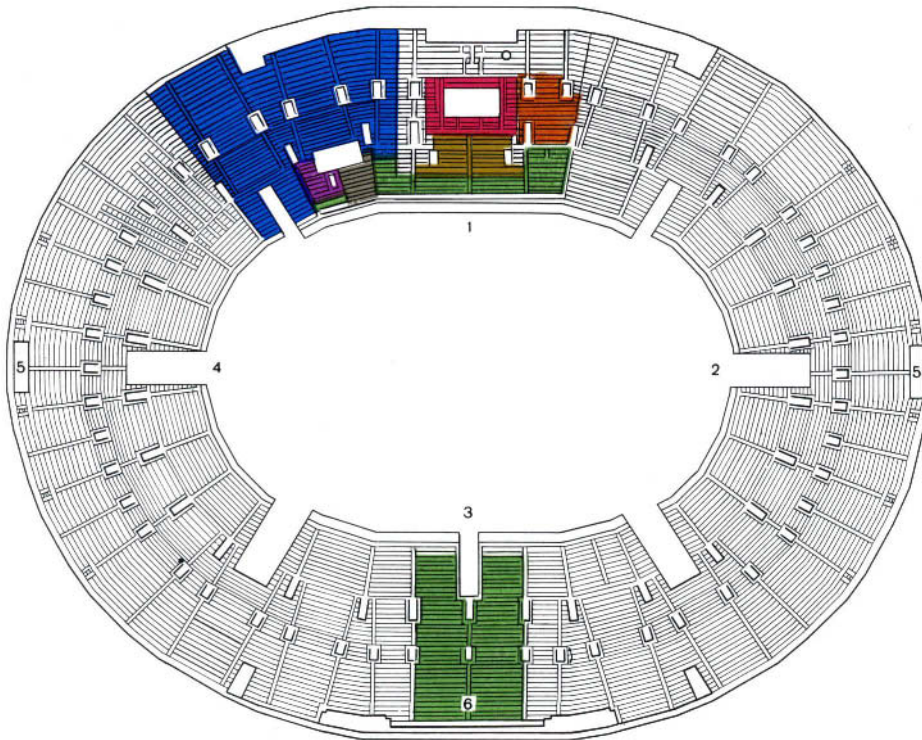
**Grand Arena
Grandstands Plan**
1. Western grandstands
2. Northern grandstands
3. Eastern grandstands
4. Southern grandstands
5. Scoreboards
6. Olympic Flame Bowl

Officials' stands
(categories A, B, C, G)

Seats for jury members
and technical officials (D
category)

Seats for national team
members (F category)

Seats for observer
missions of organising
committees for future
Olympic Games (N
category)

Seats for the media (E
category)
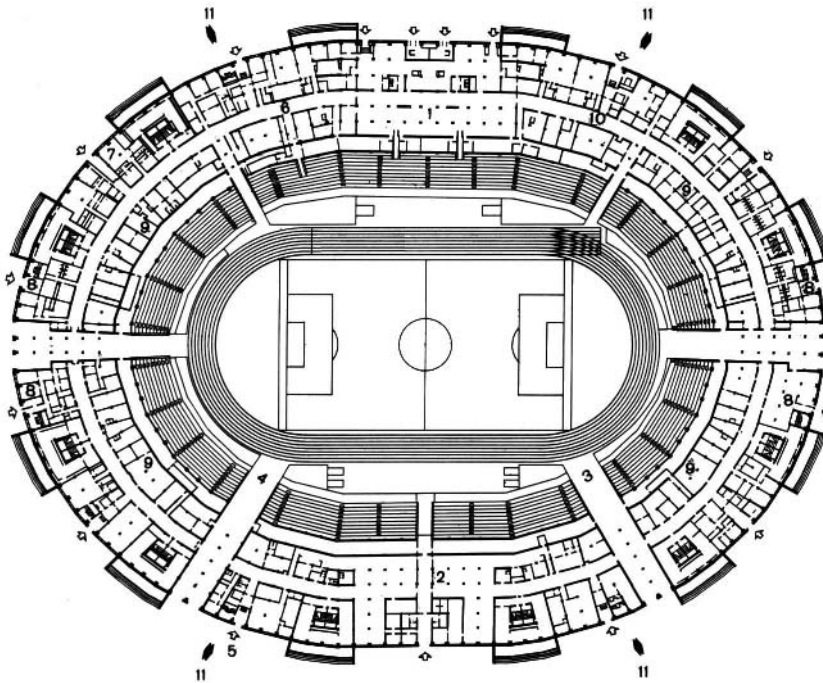
**Grand Arena
Ground Floor Plan**
1. Area for officials and
distinguished guests
2. Competitors' area
3. Competitors' exit onto
competition arena
4. Return of competitors after
competition
5. Entrances for competitors
after warm-up at training
areas
6. Technical officials' area
7. Locker rooms for football
players
8. Offices of restaurants and
snack bars
9. Storage areas of restaurants
and snack bars
10. Offices of stadium
administration
11. Lighting towers

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and broadcast commentators. The re-planning of the space under the eastern grandstands provided for the services required by the press: working rooms, a trunk call office, a teleprinter room, a press-conference hall, etc. Technical officials' quarters, a post-office, a currency exchange office, a room for the award squad were also located there.

The Olympic Flame Bowl was erected above the eastern grandstands. Below it, the interiors of the first-floor and second-floor spectator galleries were renovated.

It is noteworthy that the modernisation of the other facilities in Luzhniki also included the replanning of the space under the stands, as it had been done in the Grand Arena. In all cases, the competitors, the media, dignitaries, officials, and judges had their own entrances. Their quarters had exits leading directly on the arena or into the boxes assigned for them.

Three landing pits were added in the western and eastern athletics sectors of the competition arena. The track and the sectors were covered with synthetic surfacing.

Large scoreboards were installed over the northern and southern grandstands. Four towers, each 86 metres tall, were erected to illuminate the



**The competition area and stands of the Grand Arena**

**The Olympic flame bowl**

**The scoreboard of the Grand Arena**

Grand Arena. They were fitted with panels, each consisting of 200 head-lights with Soviet-made metal halogen lamps. The height of the towers pre-vented glare. Lighting intensity at the arena was over 1,500 lux to ensure a high-quality colour television broad-casting. The towers were equipped with lifts for easier maintenance.

The Northern and Southern track-and-field training areas had been laid out near the Grand Arena by the start of the Games. Pavilions containing lockers, washrooms, cloak-rooms, areas for coaches, massage rooms, first-aid stations, and snack bars were built there.

The two training areas were con-nected with the Grand Arena by means of a temporary walkway ele-vated three metres above the ground. Thus, competitors and spectators never mixed.

The Northern and Southern train-ing areas and basketball and volleyball courts nearby are now used for train-ing by athletes and by physical fitness groups.

**Detail of stands with the overhang and a lighting tower**

**View of the Grand Arena from the main entrance to the stadium**

**Overhead passage for competitors from one of the training areas**

# Minor Arena



Minor Arena. Southern side

An Olympic volleyball match at the Minor Arena
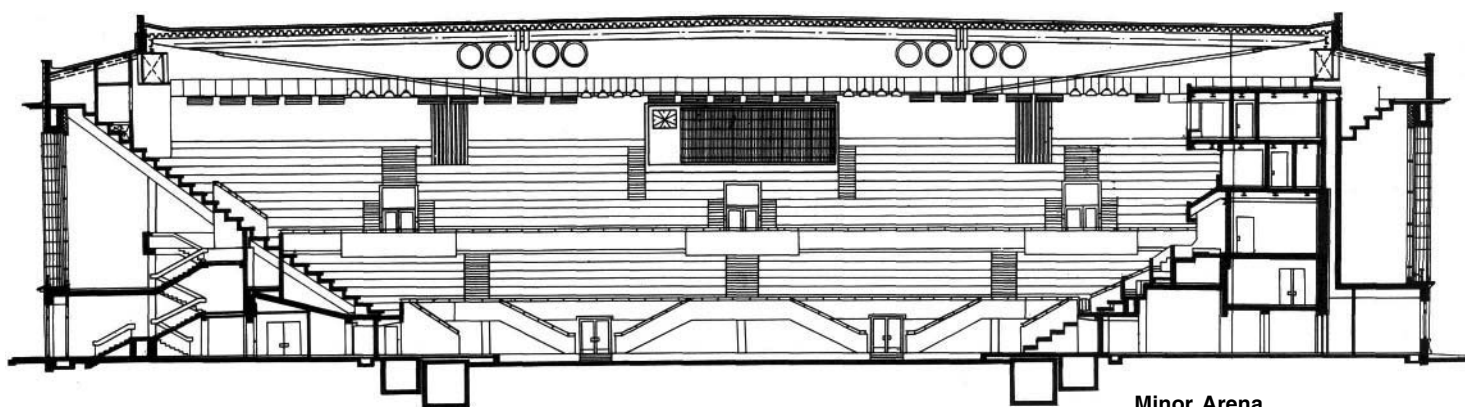
**Minor Arena
Cross Section**
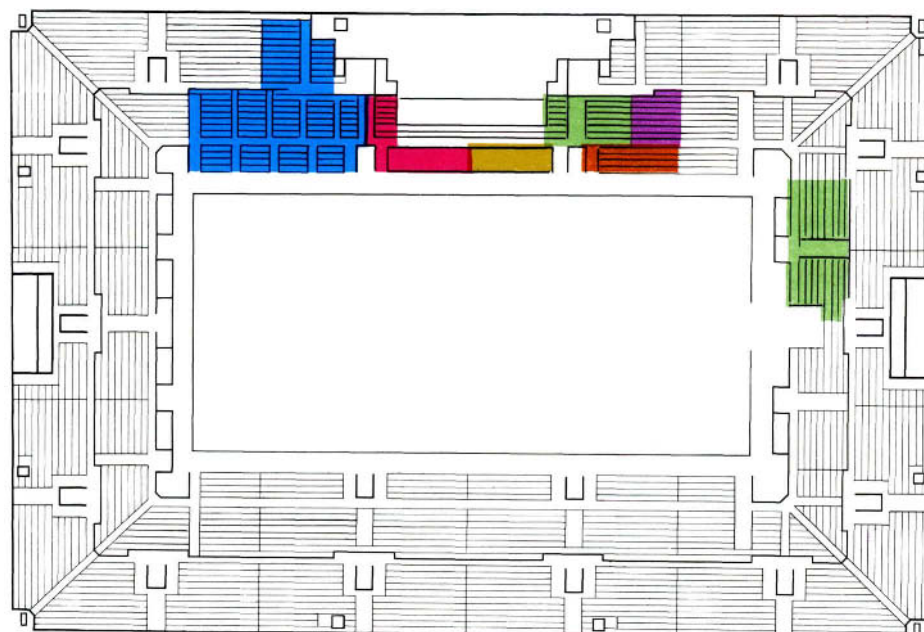


**Minor Arena
Stands Plan**

Officials' stands
(categories A, B, C, G)

Seats for jury members
and technical officials (D
category)

Seats for national team
members (F category)

Seats for the media (E
category)

The Minor Arena was an open ground for team sports, having a field measuring 73 by 42 metres where tennis, volleyball and basketball courts were laid out in summertime.

The Minor Arena hosted volleyball competitions during the Games. The International Volleyball Federation (FIVB) requires that these competitions be held in indoor arenas. In view of this and to meet the growing need for indoor installations, the Minor Arena was fundamentally reconstructed. It was roofed and thus converted into an indoor facility that could be used for various purposes.

The modified building measures 120 by 84 m and is 16 m high. The 64x36 m playing field and the floors of the training halls were given a synthetic surface. The playing field can be turned into an ice rink when required.

The stands surrounding the arena seat 8,300 spectators and have plastic chairs. Boxes for officials, members of the media, and dignitaries were set up
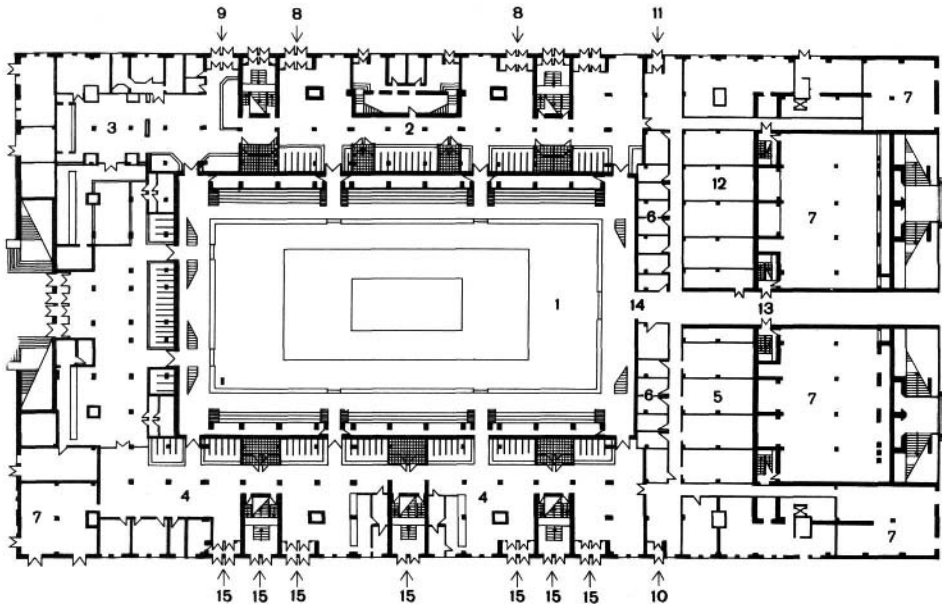
there. Two scoreboards were installed on top of the end stands.

The space under the stands was replanned during the reconstruction. A lounge for officials and referees, cloak-rooms, a VIP area, quarters for referees, the secretariat, and the jury of appeal were located there, as were a conference hall for technical officials, a press subcentre, a first-aid station, a room for copying machines and other service rooms.

A small lean-to at the north end of the Minor Arena was dismantled and replaced with a three-storey service building. It houses air-conditioning chambers on the ground floor and two training gymnasiums, 30 by 18 m each, on the first floor.

Since the Games, the Minor Arena has been used not only for competitions and training in various sports, but also for major cultural and public events.

**View of the Minor Arena from the Moskva River**

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# Swimming Pool



Swimming pool. General view

Southern side of the swimming pool
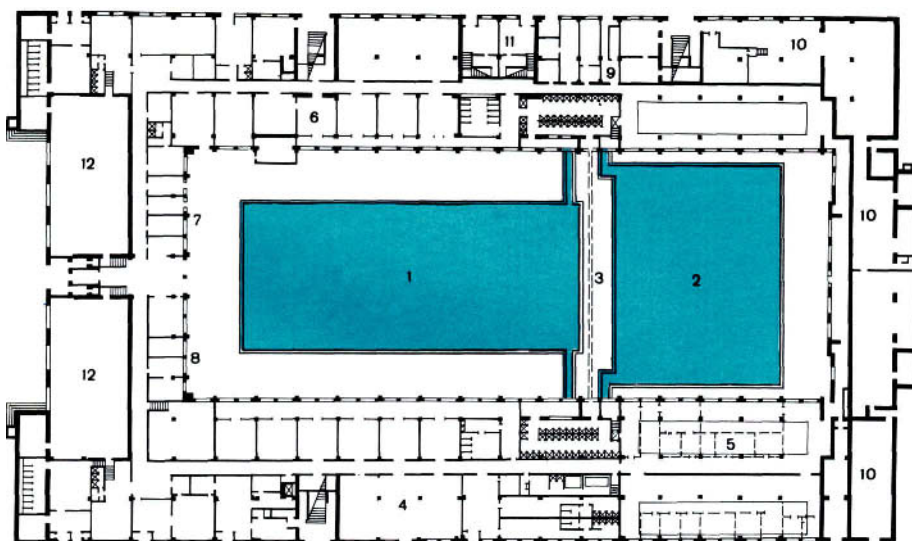
The open pool, similar in architecture to the Minor Arena, is sited symmetrically to it at the other end of the Grand Arena.

During the Games the water-polo matches were held here, which necessitated reconstruction of the pool, which has made it possible since the Games to use it for training and teaching, as well as for competitive purposes.

Before renovation the pool had two baths—a main one, 50 by 22 m, for swimming competitions, and a 25 by 22 m diving bath. The dimensions of the latter were inadequate for water polo players' limbering up. The diving bath was extended and is now 33 by 25 m. It was isolated from the main bath by a partition for the period of the Games.

The stands were also renovated. All 10,500 seats were replaced and the roof of the rooms under the stands was water-proofed with self-stressing concrete.

Sections for dignitaries, officials, jury, referees and judges, and for members of the media were set aside on the western stands. Competitors had their seats on the eastern stands.

The rooms under the stands were replanned for better zoning. The quarters of officials, technical officials and a press subcentre were located under the western stands and services for competitors under the eastern stands. The competitors were offered eight locker rooms, two saunas, massage rooms, rest areas, two warm-up areas measuring 30 by 15 m each, a first-aid station and a snack bar.

Commentator booths and commentator positions were installed on the western and eastern stands in the press area.
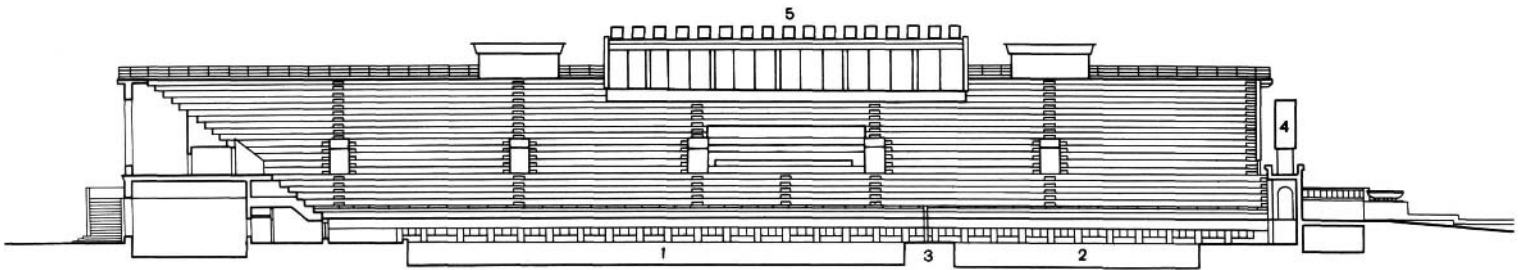
The renovation of the swimming pool also included installation of up-to-date communications, score-keeping and control facilities and of the necessary engineering equipment. The commentator booths had lamps mounted on their roofs and public-address speakers were put up around the perimeter of the stands. The scoreboard was replaced.

The pool was improved for the use in the post-Games period: three wading pools for children under the stands were modernised. The pools, 25 by 6 metres each, now have a separate lobby. They were not used during the Games.

The replanning of the rooms to accommodate the needs of the media, judges, and officials during the Games was achieved using lightweight sectional partitions. They made the job of replanning the rooms after the Games much easier. Now the services of the swimming pool are located there.

The modernisation of the swimming pool resulted not only in making the water polo competitions a success, but also in improving conditions for its operation in post-Olympic period for sports and general fitness programmes. The renovation of the wading pools intended for children made it possible to train them separately from adults.
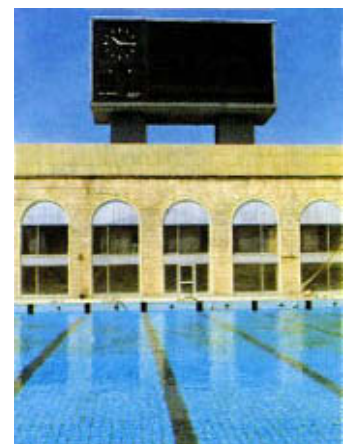


Commentator booths

Scoreboard of the swimming pool

Swimming Pool
Longitudinal Section
1. Competition bath
2. Warm-up bath
3. Partition
4. Scoreboard
5. Headlights

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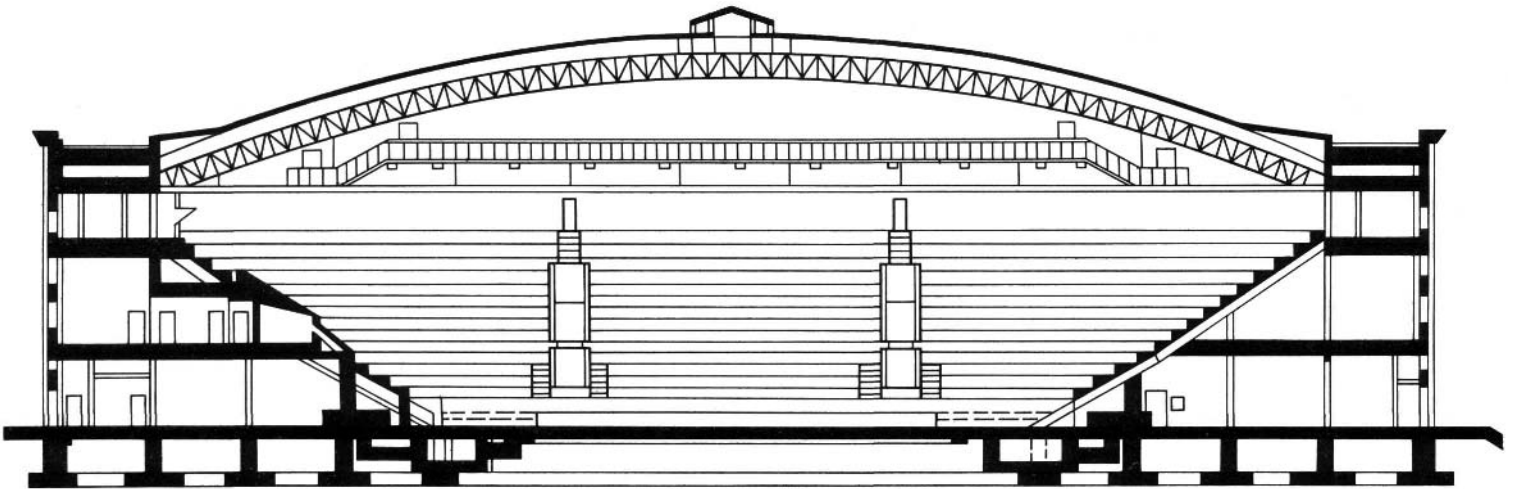
# Sports Palace





The Sports Palace is well known to athletes in many countries and is very popular; more than four million spectators visit it every year. Major sports events, including world and European championships, have been successfully staged there. The Sports Palace has seen 45 major competitions in gymnastics alone. This is why it was selected to host the Olympic gymnastics events. Judo competitions were also held there.

An indoor multipurpose facility, the Palace measures 120 by 90 metres and is 16 m high.

The competition arena is situated in the middle of the auditorium and can be transformed to meet the needs of cultural events or rallies. A temporary platform made of sectional components was erected in the arena during the Olympic Games to support the gymnastics apparatus or tatami for judo.

The arena is surrounded by spectator stands. The number of seats can be varied depending on the event held at the Palace. This was made possible by installing dismountable seats in the arena. Thus, the Palace seats 12,300

**Sports Palace. Northern side**

**Sports Palace Cross Section**
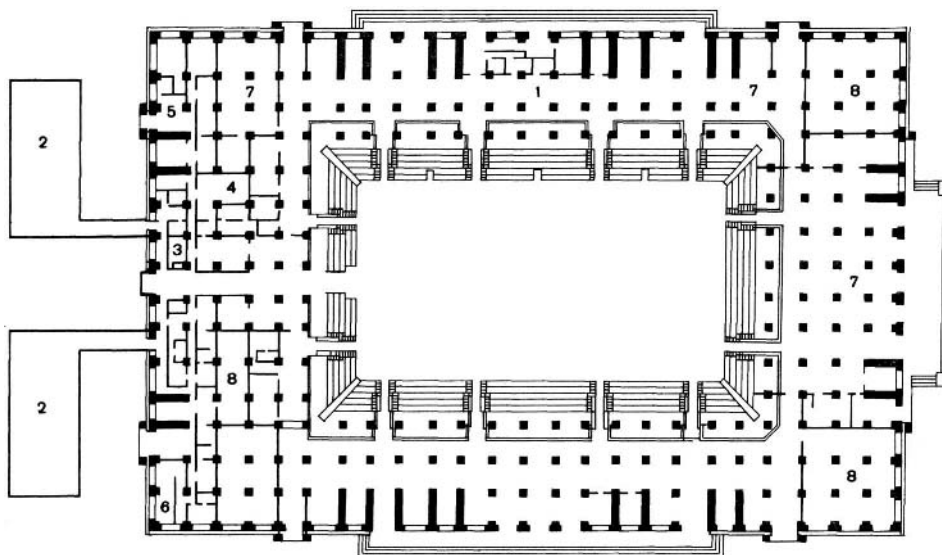
**Sports Palace
Ground Floor Plan**
1. VIP lounge
2. Competitors' dressing rooms
3. First-aid station
4. Press quarters
5. Technical officials' quarters
6. Area for IOC and IF officials
7. Spectators' area
8. Utility rooms

people for gymnastics competitions, 13,776 for boxing; 12,118 spectators can watch an ice-hockey game, 10,717—a concert, and 8,788—a film.

The lobby, a lounge, snack bars, various service and technical rooms are located under the stands. Competitors' locker rooms are located on the ground floor in the western sector of the building, the farthest from the main spectators traffic. A separate entrance from outside and a wide passage from the arena lead to that area. The ground floor houses administration offices, technical and service rooms. There is a hall, 40 by 20 m and 9 m high, on the first floor, which is used for practice and training. A press subcentre was set up on the first floor. The stands had special seats reserved for the written and electronic press, VIPs, technical officials, referees, competitors, and coaches. Commentator booths, the
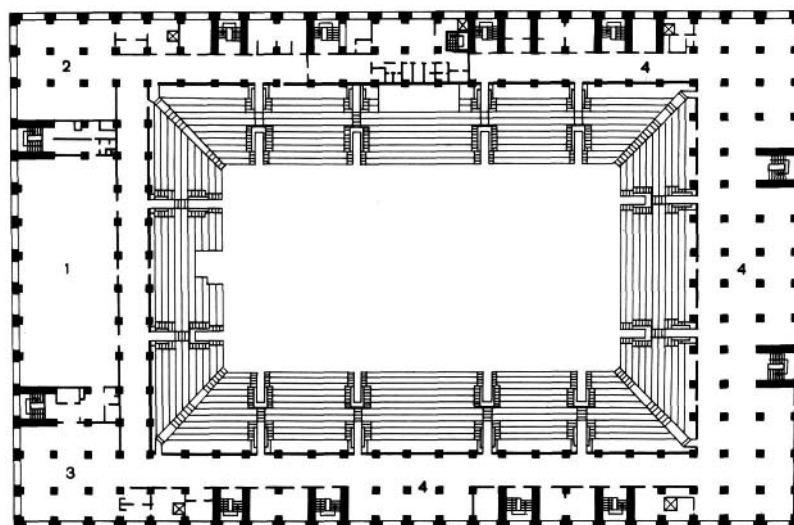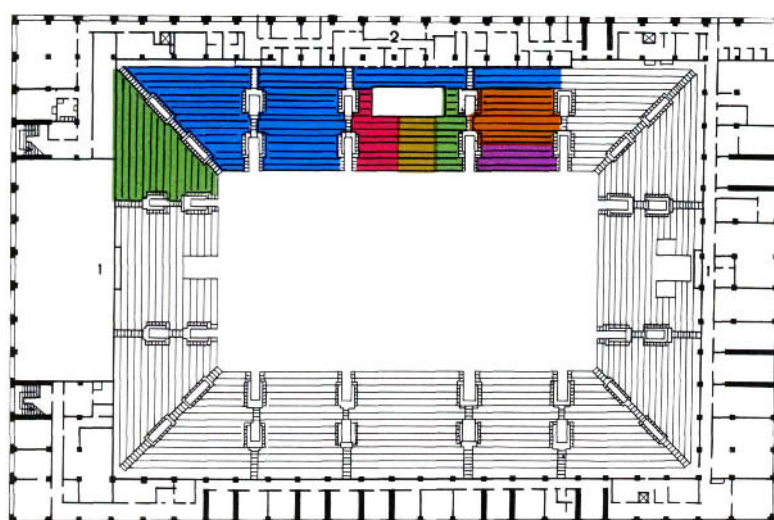
**Sports Palace
Stands Plan**
1. Scoreboards
2. Commentator booths

■ Officials' stands
(categories A, B, C, G)

■

■

■

■ Seats for jury members
and technical officials (D
category)

■ Seats for national team
members (F category)

■ Seats for the media (E
category)



**Children's sports grounds are
located near the Sports Palace**

press bureau, post office, control posts, storage rooms for equipment and personnel quarters were located on the second floor.

To conform to the requirements of the International Gymnastics Federation (FIG), the Palace was renovated and some of the rooms were replan-ned for better zoning and more convenient functional connections. The replanning did not affect the Palace's arena, the stands, and the training hall.

One-storey pavilions were built near the Palace, connected to the main building by passages. They housed eight locker rooms for the competitors. Thus, some room was left inside the Palace to accommodate offices and lounges for VIPs, including the IOC President and representatives of the IFs, technical officials' quarters and some other services.

Much was done to improve the fire safety of the building, to modernise its engineering equipment, particularly the power supply system. The auditorium, lobby and the lounge for spectators were repainted. After the Olympic Games, the Palace is continuing to serve Sport and Art.

# Druzhba Multipurpose Arena





The Druzhba Multipurpose Arena was put into service in the summer of 1979 for the finals of the VII USSR Summer Spartakiade. Volleyball competitions were held there during the Olympic Games. It was built in the southeast of the Central Lenin Stadium and completed the architectural integrity of the entire complex.

Luzhnetskaya Embankment and Luzhnetsky Lane lead directly to the Arena, connecting it with the city. A large plaza with a parking lot was laid out in front of the main entrance. There is the Lenin Hills Metro Station nearby and a landing stage for the

**Druzhba Multipurpose Arena
Longitudinal Section**
1. Training halls
2. Equipment room, ventilation chambers
3. Permanent stands
4. Retractable stands
5. Spectators' lounges

A match of the Olympic volleyball tournament at the Druzhba Arena
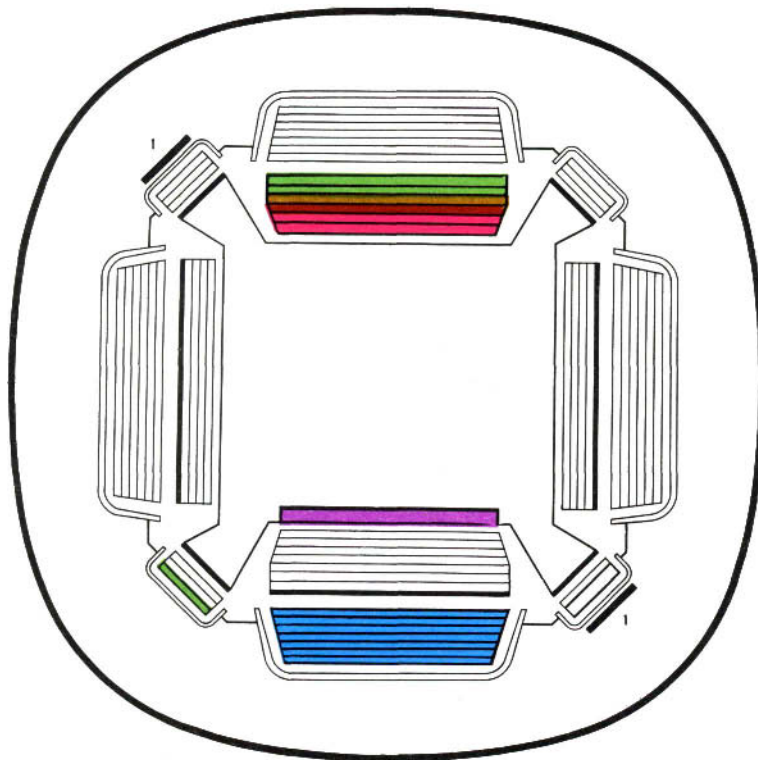
**Druzhba Multipurpose Arena Stands Plan**
1. Scoreboards

Officials' stands
(categories A, B, C, G)

Seats for jury members and technical officials (D category)

Seats for national team members (F category)

Seats for the media (E category)

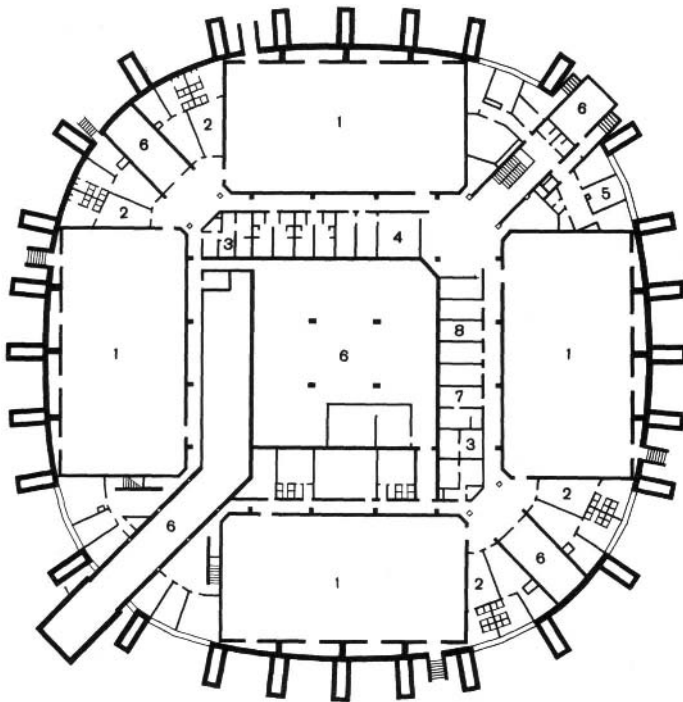**Druzhba Multipurpose Arena
under construction**

river crafts running along the Moskva River.

The building of the Arena represents a dome-shaped shell spanning a space 80 by 80 metres and 20 m high, without any interior supports. The prefabricated dome consists of a shell supported by 28 folded plate elements.

The interior of the building is zoned into two areas. The upper zone includes the competition hall, a lobby, cloak rooms, and snack bars. The bottom part is designed for training halls and service rooms. There is an intermediate zone between the two housing locker rooms and other spaces which service open tennis courts in summer and skating rinks in winter. Each zone has a separate entrance and can function independently from the rest.

The multisports arena, 42 by 42 metres, with stands for 3,900 spec-

tators takes up most of the building's interior. The stands surround the arena on all four sides. Their upper tier (1,800 seats) is stationary and the lower one retractable (2,100 seats). The seats are easily retracted beneath the stationary tier. By transforming the stands in this way, it is possible to alter the size and purpose of the hall. The capacity of the stands can be changed, too. Sections for officials, media, and VIPs were reserved on the stands during the Games. The seats are plastic chairs.

The competition arena and the training halls have a synthetic flooring. The surface of the arena can be removed, thus making it possible to stage competitions in some sports on a deck-type wooden floor.

The competition hall is encircled with the lobbies, snack bars and cloak rooms located under the stands. When no spectators are expected, four playing grounds, measuring 24 by 12 m each, can be laid out in the lobby. To this end, the cloak rooms can easily be transformed: the racks are moved aside and hidden behind vertical screens. Special slots were made in the floor to anchor apparatus and mobile structures.

The multisports hall has no natural lighting. It is illuminated by four groups of lighting projectors installed above the stationary stands. Besides, blocks of powerful lights are provided directly on the spherical roof of the hall to intensify the lighting for high-quality colour telecasts.

Locker rooms for competitors are located opposite the main entrance, at the level of the multisports hall. Below are the press quarters and rooms for technical officials.

Four 36x18 m training halls are located in the bottom part of the building, under the lobby of the mul-

tisports hall. Provided with natural lighting from one side, they are designed for tennis. Basketball and volleyball competitions can also be staged in two of them. Each hall has locker rooms of its own, with showers and toilets. The same zone houses saunas with massage rooms and quarters for coaches and instructors. Administration offices, a first-aid station, service personnel quarters, and a storage area for sports equipment are adjacent to them.

The entrance to the lower and intermediate zones is under the terrace of the central entrance to the Arena. It gives access to the cloak room, snack bars, locker rooms and showers for the tennis players who use the open courts in winter.

The heating, ventilation, air conditioning and other engineering equipment is located on the lower level.

The unique construction of the roof of the Arena, consisting of precast concrete elements, and the unusual procedure used to erect them were employed for the first time in building a large-span sports installation.

First, the upper part of the dome was assembled from precast concrete slabs, which were erected on a temporary metal scaffolding by a crane that moved on rails around the building. Then 28 folded plate shells supporting the central part of the dome were placed beneath the dome by the same crane. After all the folded plate shells had been positioned, the scaffolding was removed and the work inside the building progressed under shelter.

The Arena was designed by the Mosproekt-2 Department jointly with specialised design offices of individual ministries and government agencies.

# Olympiiski Sports Complex



The sports complex off Peace Avenue is the largest installation erected in Moscow in recent years. It integrates an indoor arena and an indoor swimming pool by means of a common podium.

The indoor stadium and swimming pool cover an area of 20 hectares between Shchepkin and Durov Streets and the new thoroughfares—Olympic Avenue and Samarsky Lane.

The main flow of spectators arriving at the Complex comes from the Prospekt Mira Metro Station.

The topography of the terrain (11-metre an gradient) was utilised to organise two levels of traffic: the upper level for pedestrians and the lower one for vehicles, served by a parking lot with space for 2,800 cars. Service and administration zones located in the podium were accessible from the lower level.

As the spectators approach the Complex, they are divided into two flows: one to the indoor stadium and the other to the swimming pool. Groups of arriving competitors are divided in the same way. A system of ramps and exterior staircases gives the spectators access to the upper level of the podium, where entrances to the stands are positioned. The stands' tiers are interconnected by escalators and staircases. The competitors reach locker rooms, training halls and other quarters of the stadium and swimming pool by entrances reserved for them at the lower level of the podium. They have access to the competition arena or to the pool from those rooms without having to pass through public areas.

Separate entrances were provided for technical officials and members of the press.

Many technical and engineering service systems of the stadium and swimming pool were made common for better efficiency and maintenance.

**General view of the Olympiiski Sports Complex near Mir Avenue**
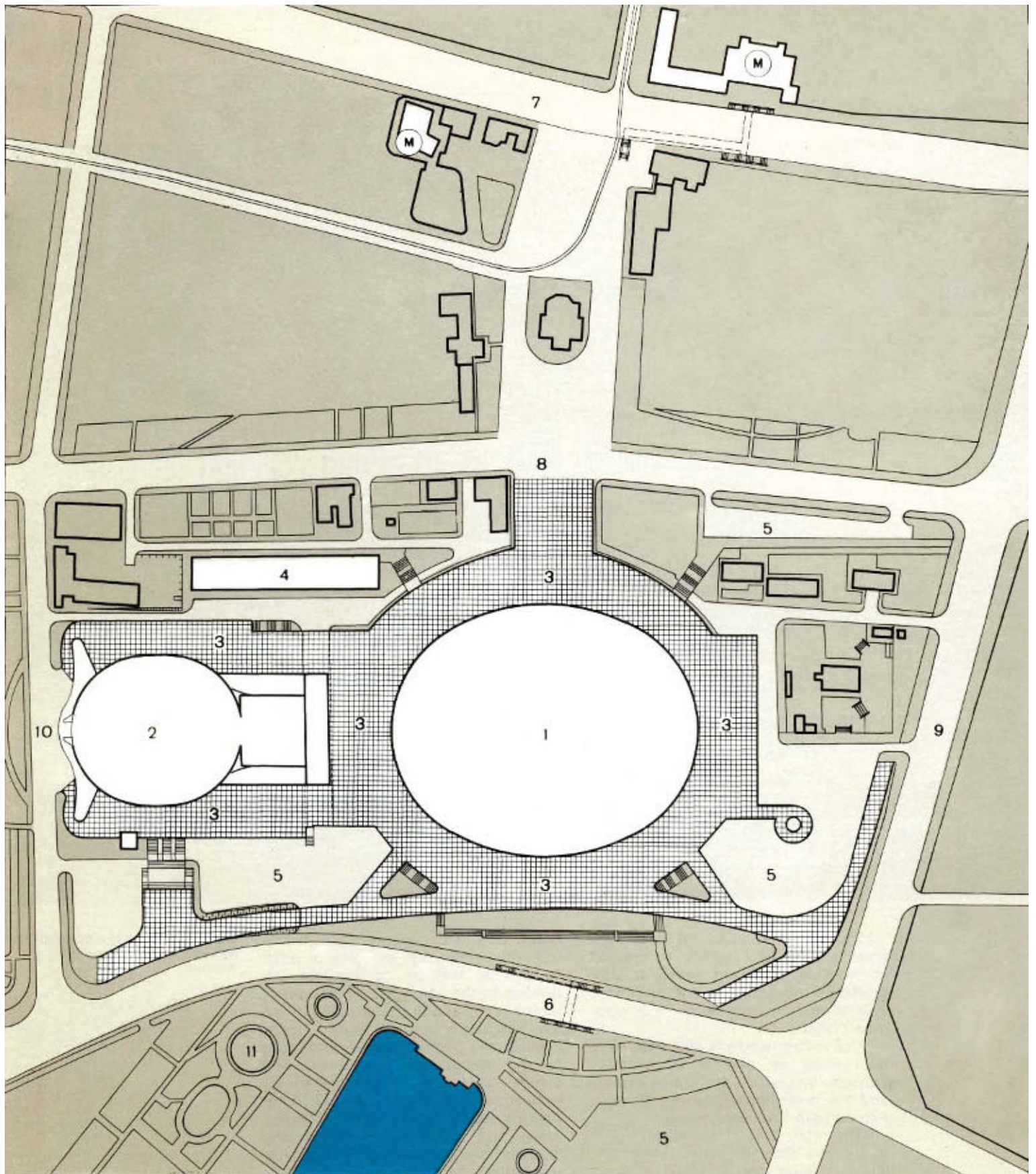
**Olympiiski Sports Complex General Layout**
1. Indoor Stadium
2. Swimming pool
3. Podium
4. Refrigeration plant
5. Parking lots
6. Olympiiski Avenue
7. Mir Avenue
8. Shchepkin Street
9. Durov Street
10. Samarski Alley
11. TsDSA Park
M — Prospekt Mira Metro Station

## Indoor Stadium



The group of architects from the Mosproekt-2 Department drew up several preliminary versions of an indoor arena to be built for the Olympic Games as long ago as 1969. The capacity of the stands at the stadium is 35,000, which can be increased to 45,000 by installing temporary seats in the competition arena.

The arena, 120 by 86 m, houses a football field with a removable synthetic surfacing. The playing field can be replaced by a 112x72 m ice rink. A movable, soundproof partition, 24 m high and 156 m long, can be used to divide the hall so that two events may be held at the same time.

The lower sections of the stands were, therefore, made on air cushions (bleachers) and can be moved to any area of the arena. Both parts of the hall have their own scoreboards.

The building of the stadium is functionally divided into five zones:

"A" Zone is the central one, consisting of the competition arena, the stands and services for spectators.

Divided into two virtually independent halls during the Olympic Games, the arena was used for basketball matches that could be watched by 16,000 spectators and for boxing competitions with stands for 17,000.

"B" Zone houses a lobby, a cloak room and a lounge, and public catering facilities with a total of more than 1,000 seats. A press subcentre with 40 phone booths was set up there during the Games.

The training "C" and "D" zones are in the podium. They include two training halls, one 36 by 18 m and the other 66 by 36 m, and two halls for team sports, 42 by 24 m each. These zones are self-contained; they have all the required service, amenity and utility rooms, including locker rooms, technical officials' and coaches' (quarters, rest areas, rehabilitation centres, and so on.

The 66 x 36 m gym was used for warming-up by boxers during the Olympic Games (rings were installed, complete with the required training equipment).

The 42x24 m gyms were reserved for basketball players and had appropriate equipment.

Storage areas, equipment rooms and administration offices are located in "E" Zone.

The cloak rooms and lounges are arranged on two levels, in keeping with the two-tier design of the stands.
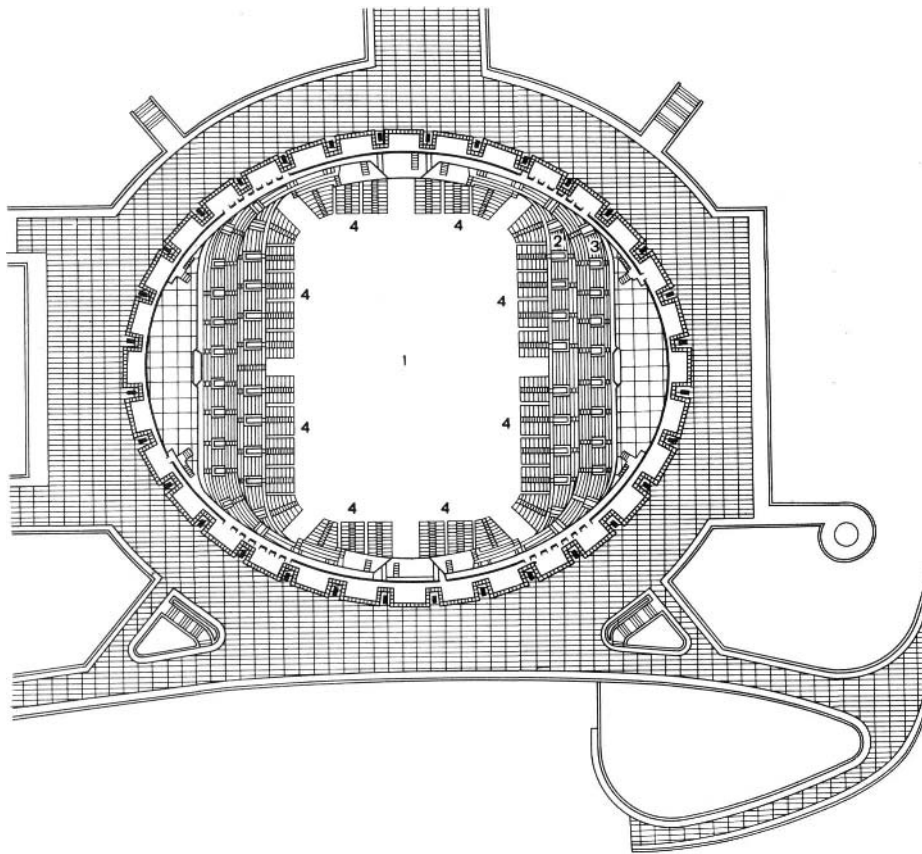
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The tier arrangement ensures the greatest possible capacity and optimum visibility for spectators. Special sections were reserved on the stands for officials, the media, and dignitaries, for whom various service rooms were set up. Stationary broadcast commentator booths are located in the first tier of the stands.

Rolling stage equipment for theatrical performances is also provided at the arena.

The Indoor Stadium building was constructed on a piled foundation because of former silted river beds and weak loams in the area, the ground water table being close to the surface.

The load-carrying base of the Indoor Stadium is made up of steel columns erected around the perimeter of the building. It is close to an ellipse in plan, with axes of 224 and 186 metres. The total interior space of the structure is 1,320,000 cubic metres.

The audience hall of the stadium is a spacious large-span structure in the shape of a suspended shell, made of a steel sheet five millimetres thick. The shell is fixed around the outer edge of the ellipse to a reinforced concrete ring placed in a steel trough-like structure supported by 32 steel columns.

The stabilising elements of the shell—steel flexible radial trusses—were used also to attach walkways, a suspended acoustical ceiling, lights and various equipment.

Two steel double-hinged frames with a 167-metre span were erected for the soundproof movable partition. The partition was assembled from 26 soundproof panels, each measuring 24x6 m and weighing 17 tons. Special pockets are provided at both ends of the frames to store 13 soundproof panels each.

The unique roof components of the stadium are new to construction practice in the USSR and new methods were required to erect them. Erection techniques were developed to shorten installation time and decrease steeple-jack work. To this end, a temporary bridge with traveller rails was installed around the outer supporting ring for two specially-made erecting cranes, with a hoisting capacity of 50 tons each. A temporary metallic support was put up in the centre of the building with a 50-ton tower slewing crane inside.

Once the heading work was over, the stabilising trusses were installed. Then prefabricated sectors of a metal membrane, weighing 25 tons each, were placed. The sectors were joined together into the membrane with high-strength bolts. They were
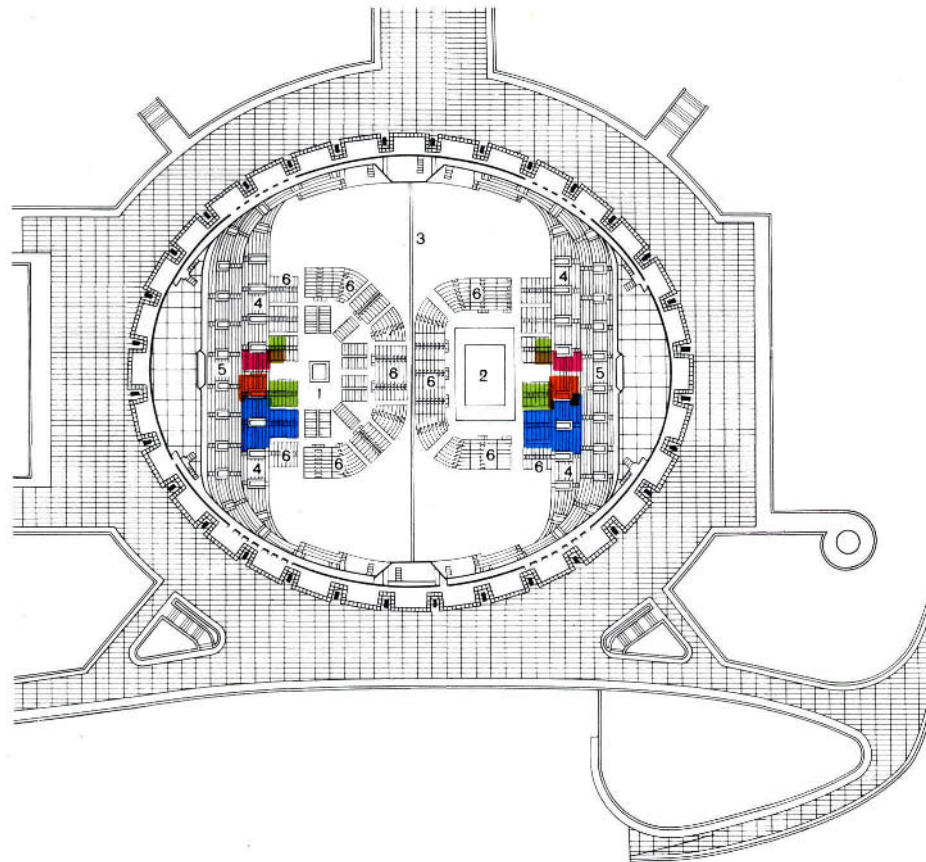
**Indoor Stadium**
**Plan of the Arena During the Games**
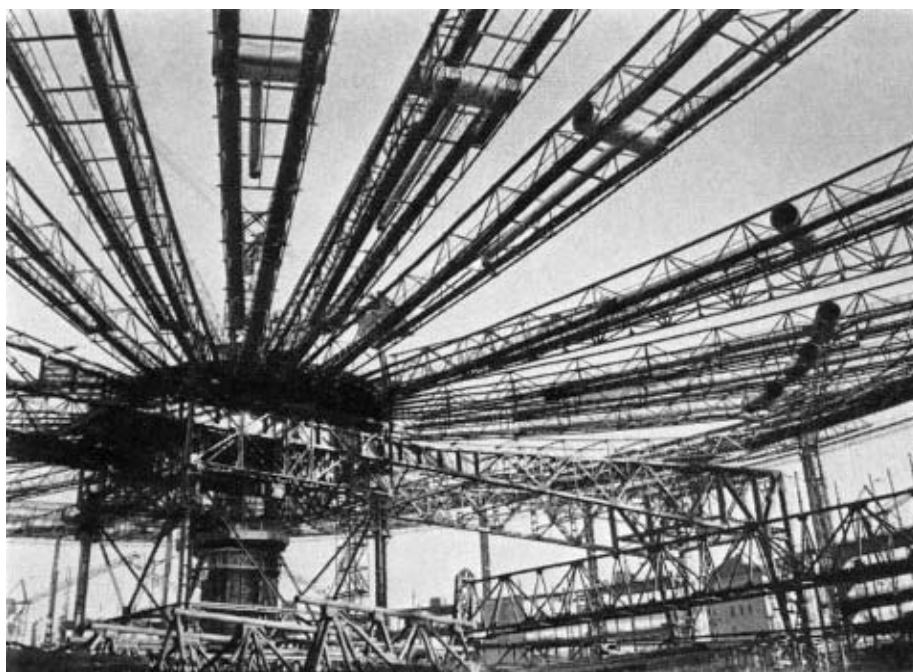1. Ring
2. Basketball court
3. Soundproof partition
4. First tier of stands
5. Second tier of stands
6. Bleachers

Officials' stands (categories A, B, C, G)
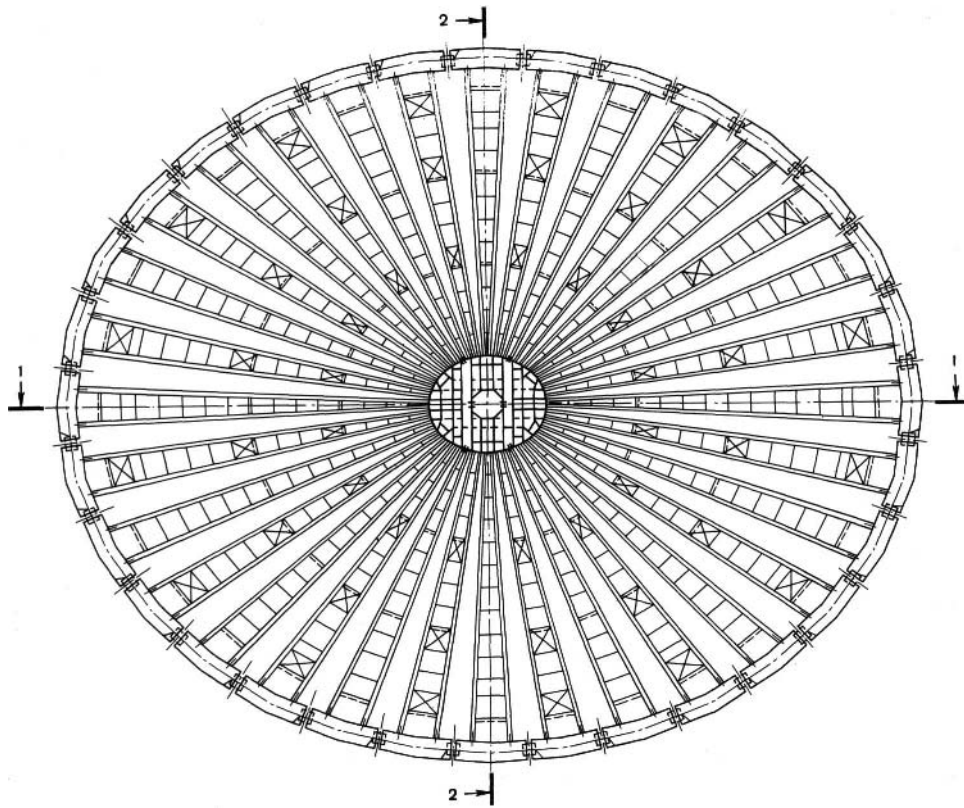
Seats for national team members (F category)

Seats for the media (E category)

**An Olympic basketball game in one of the halls of the Indoor Stadium....**

...while boxers fight in the other

The roof of the Indoor Stadium being erected

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**Indoor Stadium
Roof Plan**

**Indoor Stadium
Roof Longitudinal Section (I—I)**

**Indoor Stadium
Roof Cross Section (2—2)**
1. Roof
2. Frames of soundproof
   partition
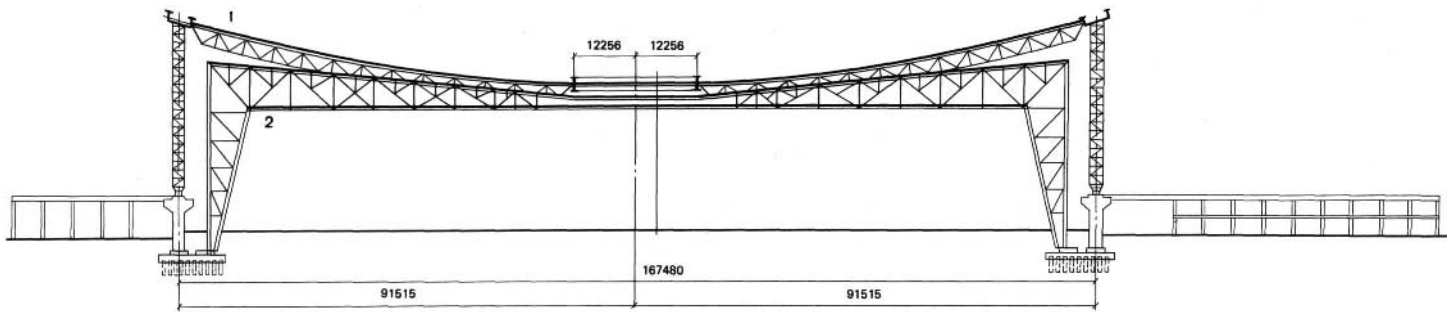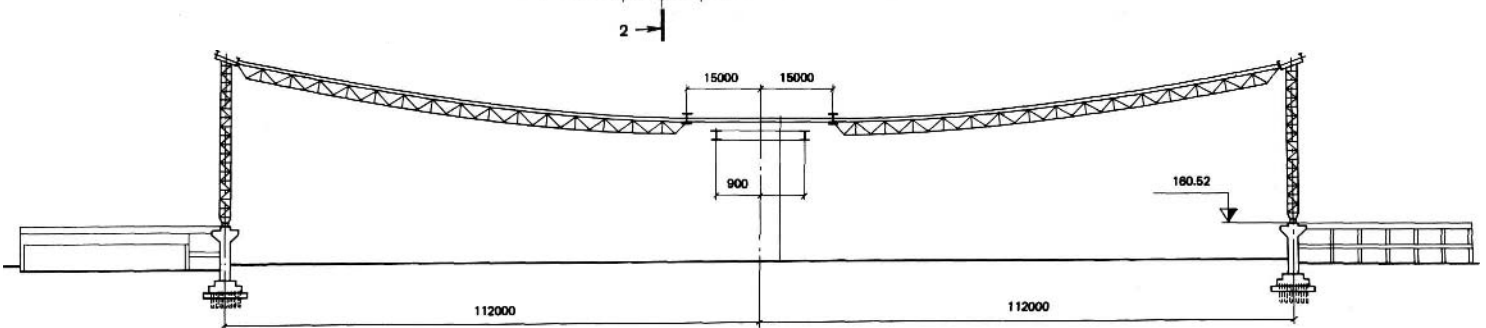
fastened to the trusses in the same way.

After the work had been completed, the temporary shores of the membrane were removed and it settled into design position.

Following the Games, the stadium is being used for such events as football, bandy, ice hockey, figure skating, rugby, track-and-field, circus and variety shows, festivals, and rallies.

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## Swimming Pool

The pool building is secondary to the Indoor Stadium and this is reflected in its architecture, which is more simple. It hosted swimming, diving, and water polo events during the Olympic Games.

The swimming pool is an indoor facility with six swimming baths, five exercise rooms, training water channels, and warming baths for competitors. Functionally, it is divided into three zones: competition and warm-up baths, the competition diving well, and wading pools for children.
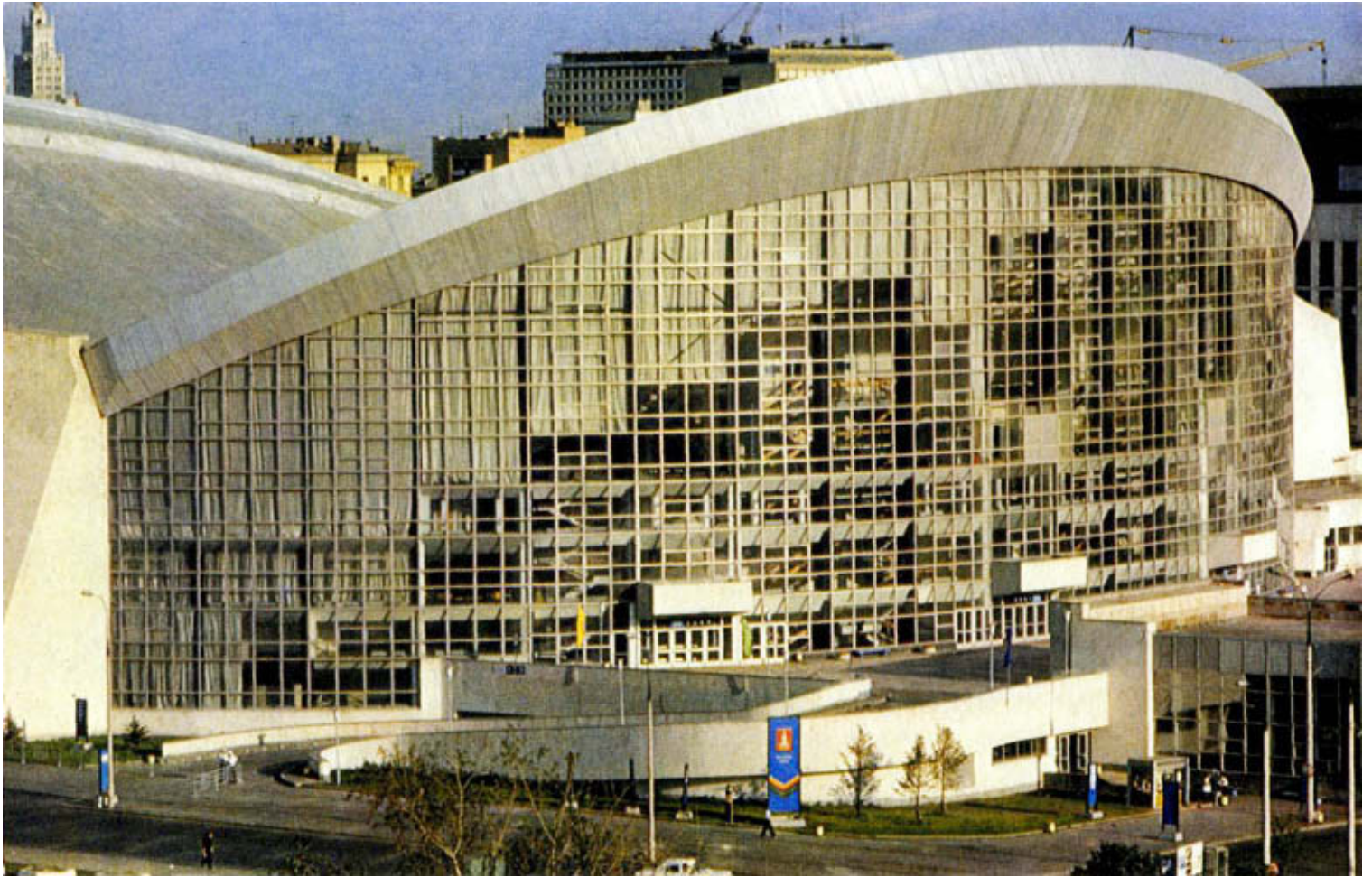
Each zone is provided with the necessary services.

The competition and warm-up swimming baths are 50 m long, 25 m wide and 2.2 m deep. Ten lanes ensure equal opportunities for competitors because the two outer lanes remain unoccupied.

The competition diving well measures 33 by 25 metres and is 6 m deep. The dimensions of the pool make it possible to stage, in addition to diving, competitions and training exercises in water polo, syncronised swimming and scuba diving.

The lower zone of the podium houses three wading baths, two baths measuring 12.5 by 9 m and one 25 by 14 m, designed to teach children to swim. A 24x18 m gym is also situated there.

Two tiers of spectator stands run along the competition swimming and diving baths. Seats for officials, members of the press and dignitaries were set aside there. The bottom tier consists of permanent stands and the top tier of sectional metal bleachers. The total capacity of the stands is 13,000, including 8,000 for swimming and 5,000 for diving.

The swimming and diving pools with their stands had been separated by a glass partition, thus making it possible for the first time in the history of the Games to stage two competitions at the same time.

Four locker rooms, two exercise rooms, 30 by 15 m each, two baths to warm competitors before competitions and two water channels for training top class athletes are available at swimming pools.

The diving pool has two locker rooms, a bath for warming competitors before competitions (48 sq m), a trampoline hall measuring 18 by

18 m and 9 m high, and a gym of 24x15 metres.

The platforms in the diving pool are 5,7.5 and 10 metres above the water surface. The pool was also equipped with four springboards, one and three metres in height.

Continuously circulating water is supplied from the bottom in all the baths. It is changed five times a day and purified using high-speed pressure filters. The water temperature in the pools is controlled automatically.

The building has a rehabilitation, centre.

There is an administration zone in the podium. During the Olympic Games, it was used to accommodate the IF members, judges, VIPs and a press subcentre. All these quarters were well connected with their corresponding sections on the stands.

The services of the swimming pool are located on five levels. They include lounges with snack bars and smoking rooms, locker rooms for competitors, technical officials' and

**Swimmers competing at the Olympiiski Swimming Pool**
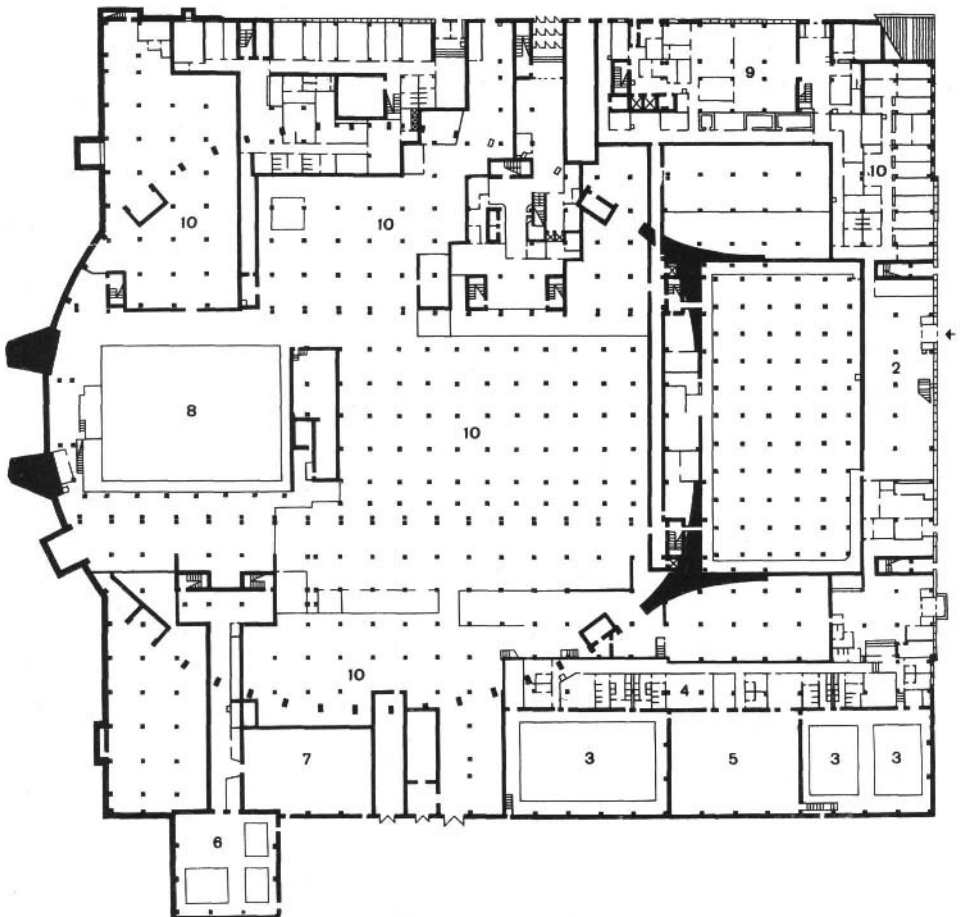


**Swimming Pool**
**Plan at Elevation = 5.70 m**
(podium lower area)
 1. Entrance into wading pool area
 2. Lobby
 3. Wading pools
 4. Dressing rooms for wading pools
 5. Sports hall
 6. Trampoline hall
 7. Gymnasium
 8. Diving bath (bottom part)
 9. Café
10. Utility rooms
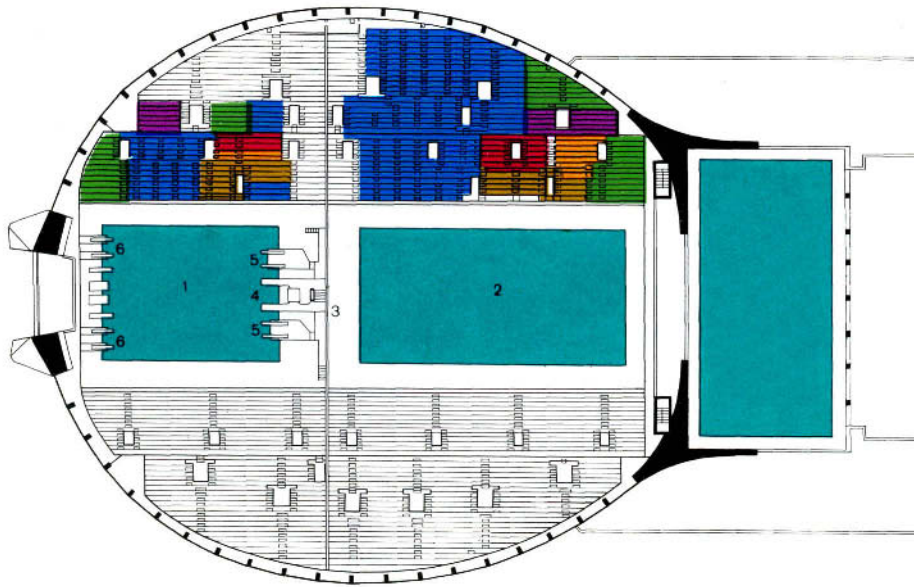
**Swimming Pool
Stands Plan**
1. Diving bath
2. Competition swimming bath
3. Partition wall
4. 5, 7.5, and 10 m platforms with lift
5. 1 and 3 m competition springboards
6. 1 and 3 m training springboards

■ Officials' stands (categories A, B, C, G)

■

■

■

■ Seats for jury members and technical officials (D category)

■ Seats for national team members (F category)

■ Seats for the media (E category)
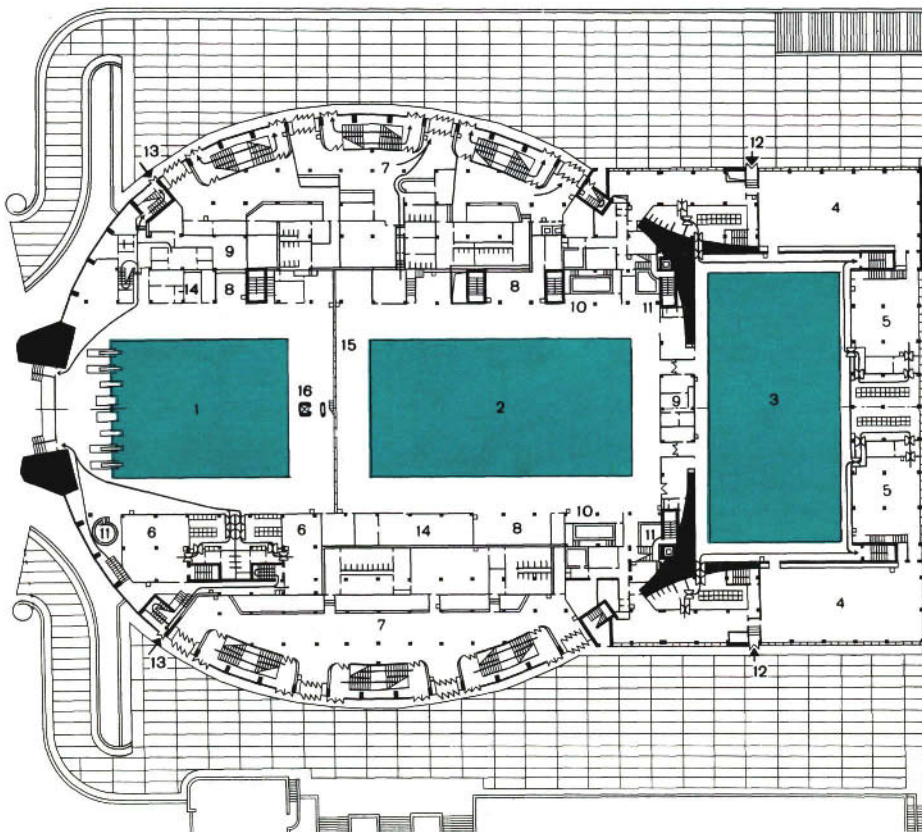
**Swimming Pool
Plan**
(at pool edge elevation)
1. Diving bath
2. Competition swimming bath
3. Warm-up swimming bath
4. Sports halls
5. Swimmers' dressing rooms
6. Divers' dressing rooms
7. Lobby with cloak room
8. Start waiting areas
9. First-aid station
10. Training channels
11. Warming baths for competitors
12. Swimmers' entrances
13. Divers' entrances
14. Power distribution room, ACS area, scoreboard-control room
15. Partition
16. Lift of diving pool
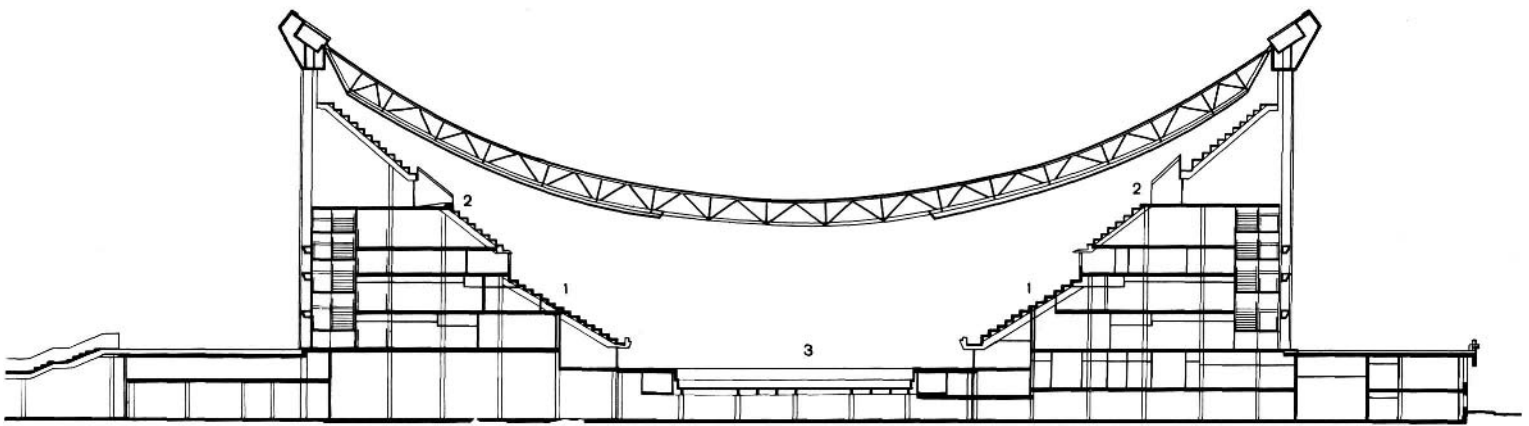
**Swimming Pool**
**Cross Section**
1. Permanent stands
2. Sectional stands
3. Competition swimming bath
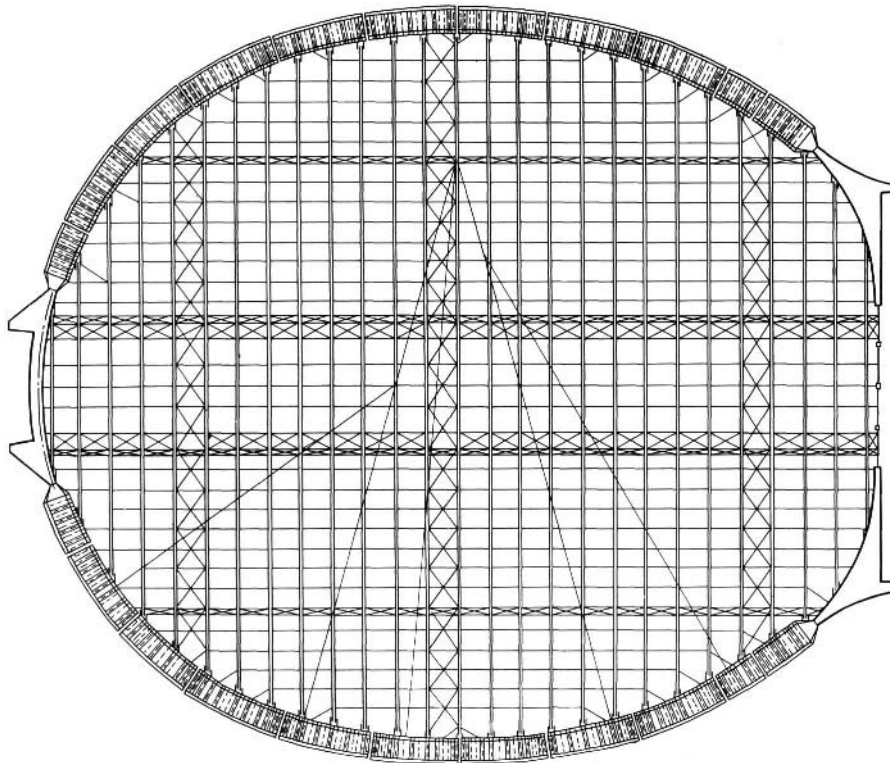
**Swimming Pool**
**Roof Plan**

coaches' quarters, a first-aid station, rooms for doctors and a doping control station, rehabilitation areas, waiting rooms, methodological centres, a registration room and administration offices, VIP lounges, press conference rooms, a press subcentre equipped with teleprinters and a telephone call office, and utility and technical rooms.

The pool building was erected on a piled foundation. The framework of the main hall is made of steel large-span components. The roof consists basically of two double-hinged arches, inclined one against the other, with a span of 120 metres. They support a suspended saddle-shaped roof system. The inclined arches rest on four high supporting pillars of cast-in-situ reinforced concrete based on the piled foundation.

The suspended roof consists of steel guy trusses with a maximum span of 108 metres, covered with shaped continuous steel sheet. An efficient multilayer heat insulation and a waterproof carpet were placed on top.

After the Games of the XXII Olympiad, the swimming pool is being used for swimming competitions, diving and water-polo events, as well as for training and general fitness programmes. A swimming school for children of the Trudovye Reservy Sports Society is functioning there, too.

The President of the International Amateur Swimming Federation, Javier Ostos, praised the new Olympic pool. He said, "The results achieved in the Olympic pool were high.... I think that this wonderful pool contributed a lot to a high results achieved."

## Sports Facilities of the Northwestern Planning Zone

## Dynamo Central Stadium

Leningrad Avenue—the main artery of the northwestern planning zone—runs past the oldest stadia of Moscow, the Dynamo and Young Pioneers', and a complex of structures of the Central Sports Club of the Army. A little further, another multipurpose arena—the Dynamo Palace of Sports—was built for the Games in Lavochkin Street in the Khimki-Khovrino residential area.

These facilities hosted competitions in various sports on the Olympic programme.

Modernisation and renovation of existing facilities and construction of new ones in the zone during the preparations for the Olympic Games and good transport connections with the city centre, with the living quarters of competitors and guests to the Games, with the Main Press Centre and other Olympic venues were prerequisites for the success of Olympic competitions there.

The Dynamo Central Stadium was built in 1928. Eventually, new installations were added and the stadium was modernised. Now it includes the Grand Arena, the Minor Arena, a training complex, an indoor tennis court, two—indoor and open— swimming pools, and open sports grounds. Situated in the picturesque environment of the Petrovsky Park, the stadium is a favourite recreational area for Muscovites.

During the preparations for the Games, the stadium was renovated once again within its existing boundaries and some of its facilities were modified to accommodate Olympic competitions and training needs.

Much was done in 1979 to renovate the Grand Arena, which was to host Olympic football matches and training sessions of the track-and-field athletes.

The playing field, measuring 105 by 68 metres and covered with natural turf, was left intact. The running track and sectors for jumping and throwing events were modernised and covered with a synthetic surfacing. The roof of the space under the stands was additionally waterproofed with self-stressing concrete. Spectator seats were replaced. Rooms under the northern stands were replanned. Lobbies, lounges for members of the IFs and NOCs, rest areas and snack bars for national team members and technical officials, a press subcentre, and comfortable locker rooms for competitors were located there.

Additional platforms for television and cine cameras were installed on the stands. Room was reserved for VIPs, members of the press, and broadcast commentators. The Grand Arena accommodates 50,000 spectators.

Four metal latticed towers, 69 metres tall, were installed to illuminate the playing field. They hold lighting projectors to provide a lighting intensity of 1,500 lux, thus guaranteeing high-quality colour telecasts.

The Minor Arena was radically reconstructed for the Olympic hockey tournament. The playing field was entirely renovated, as were the 400 m track and athletics sectors, which were covered with a synthetic surface.

In addition to the western stands with 5,000 seats, where sections for VIPs and officials were reserved, eastern stands were erected accommodating the same number of spectators. Press and broadcast commentator positions were installed in their centre.

The space under the eastern stands houses, in addition to technical
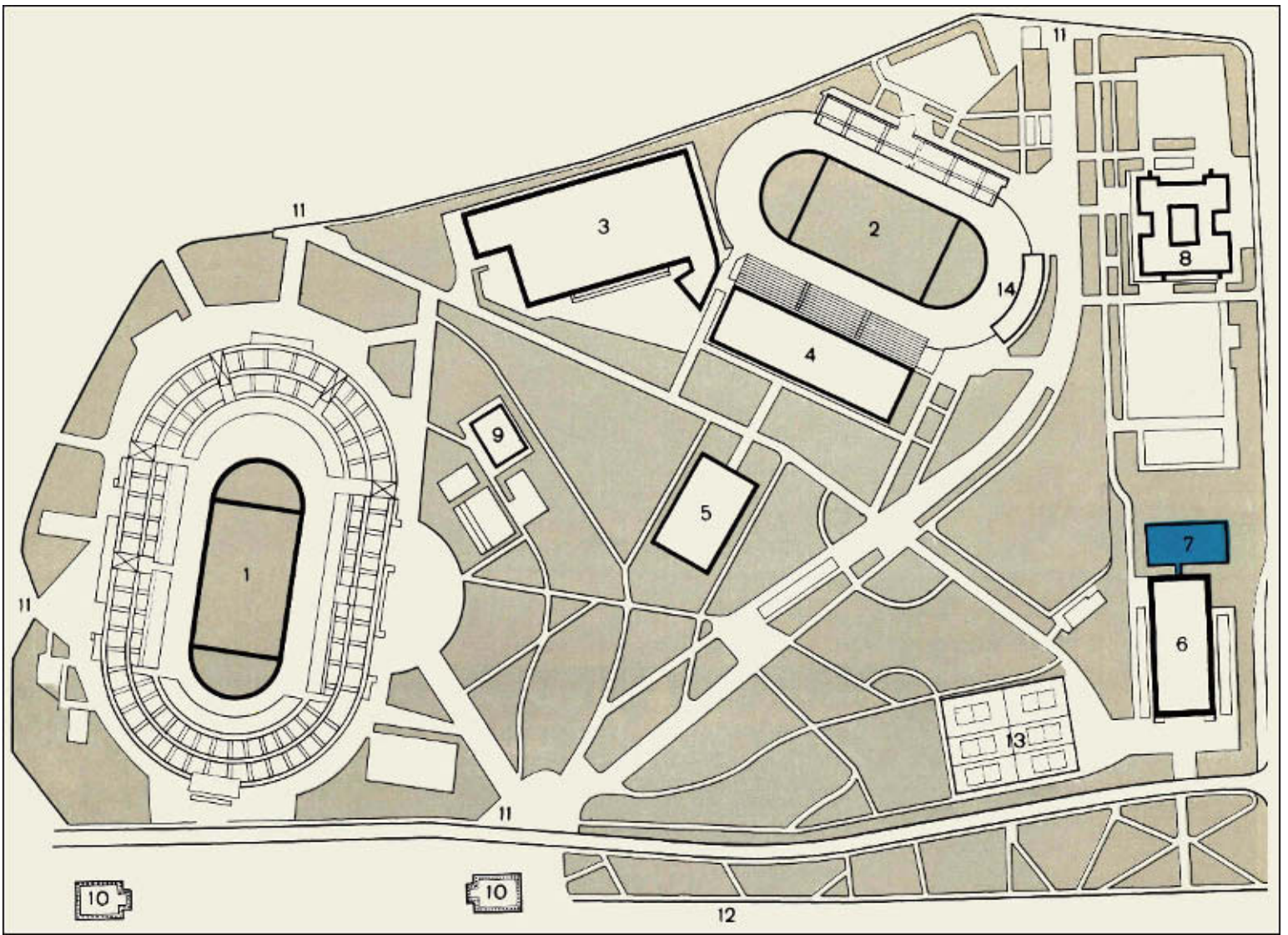
**Dynamo Central Stadium
General Layout**
 1. Grand Arena
 2. Minor Arena
 3. Football and Athletics
    Fieldhouse
 4. Gymnasium and ice-hockey
    hall
 5. Indoor tennis hall
 6. Indoor swimming pool
 7. Outdoor swimming pool
 8. Administration building
 9. Indoor *gorodki* playing
    grounds
10. Dynamo Metro Station
11. Access to the stadium
12. Leningrad Avenue
13. Tennis courts
14. Refrigeration plant
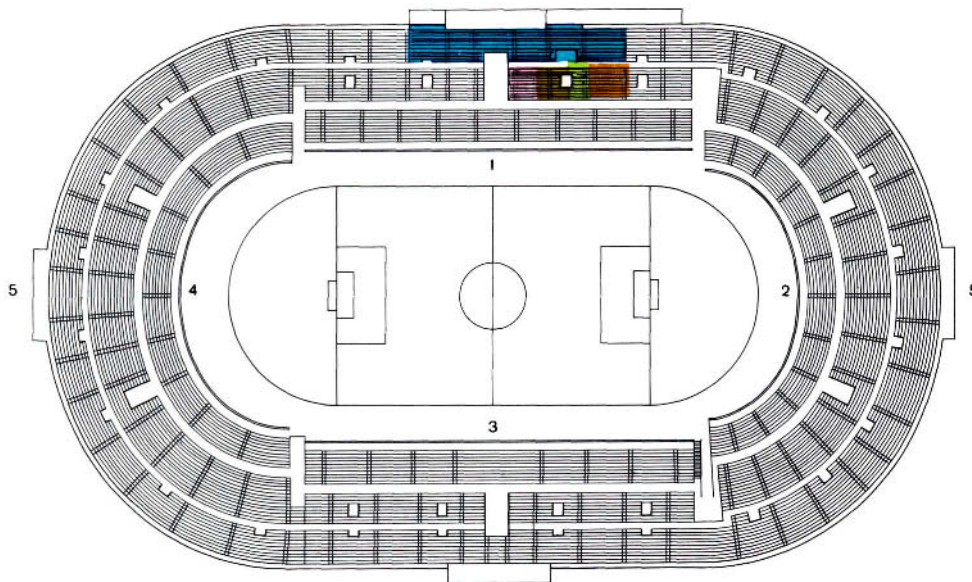
**Grand Arena
Grandstands Plan**
1. Northern grandstands
2. Eastern grandstands
3. Southern grandstands
4. Western grandstands
5. Scoreboards

Officials' stands
(categories A, B, C, G)

Seats for the media (E
category)

rooms, six locker rooms with showers, two dressing rooms for coaches, two massage rooms, a first-aid station and a doping control station, a snack bar for competitors, and rooms for technical officials, the jury of appeal, and the secretariat.

The scoreboard was installed at the south end of the competition arena.

An educational and training building is located at the back of the western stands. It consists of two halls: a 54x36 m gym and a 72x36 m ice rink. A fieldhouse was built nearby for football and athletics practice, measuring 116 by 66 m, and 15 m high. When football players and run-

Grand Arena of the Dynamo Central Stadium

Press box at the Dynamo Grand Arena

A match of the Olympic hockey tournament at the Minor Arena of the Dynamo Stadium
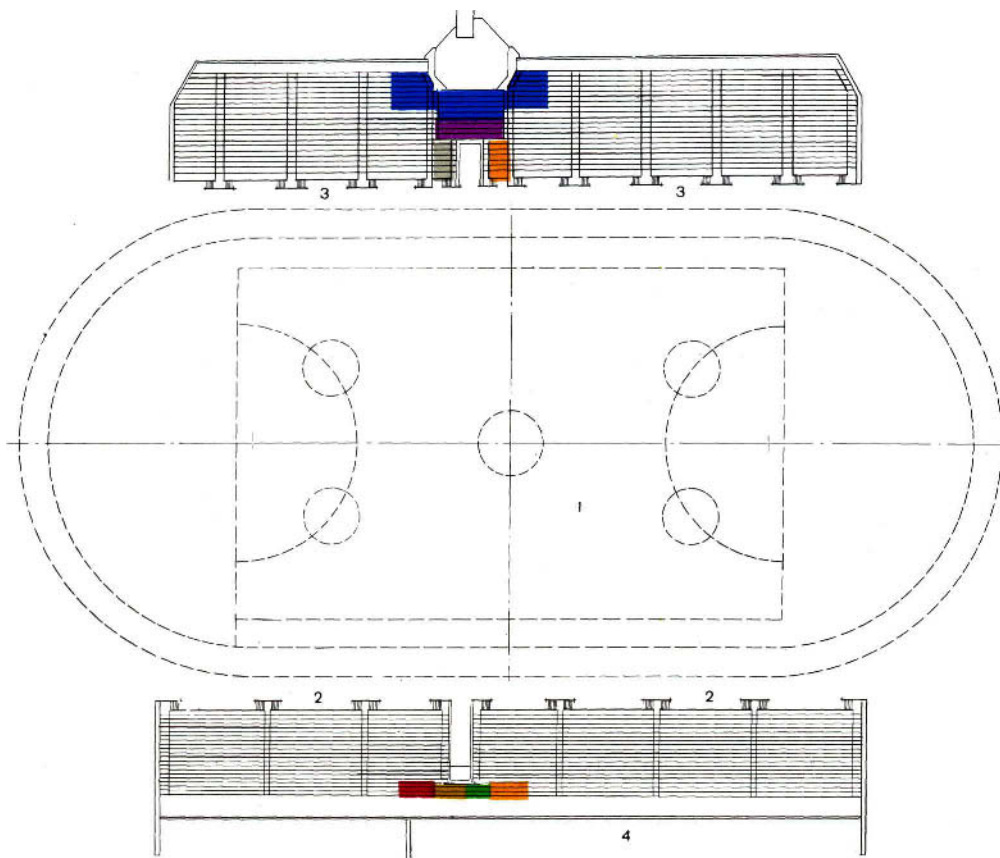
**Minor Arena
Arena and Stands Plan**
1. Bandy competition arena
2. Western grandstands
3. Eastern grandstands
4. Training building

■ Officials' stands
(categories A, B, C, G)

Seats for jury members
and technical officials (D
category)

Seats for observer
missions of organising
committees for future
Olympic Games (N
category)

Seats for the media (E
category)
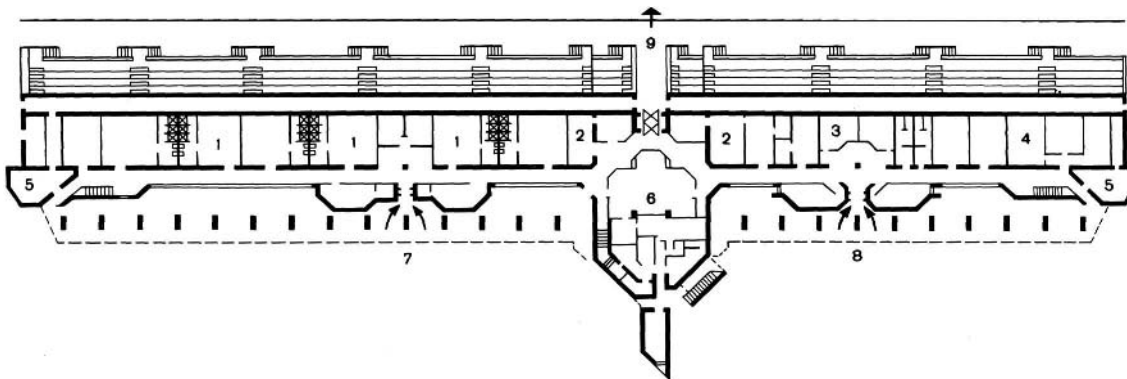
**Minor Arena
Eastern Grandstands
Ground Floor Plan**
(rooms under the stands)
1. Dressing rooms for
   competitors
2. First-aid station
3. Technical officials' quarters
4. Offices
5. Utility rooms
6. Snack bar
7. Competitors' entrance
8. Technical officials' entrance
9. Exit onto arena

ners train together, the field is separated from the track by nets.

The educational and training building and the fieldhouse were used for training by boxers, gymnasts, and fencers during the Games.

A seven-storey building constructed near the Minor Arena for the administration and technical services of the Dynamo Sports Society also includes a hotel for athletes and service personnel. The ground floor houses lobbies, lounges, a dining room and a café, and a conference hall. Offices of the Fédération internationale de hockey (FIH) and a press subcentre, were installed there for the period of the Games.

The reconstruction project for the Dynamo Central Stadium was designed by Workshops 5 and 22 of the Mosproekt-1 Department.

# Young Pioneers' Stadium
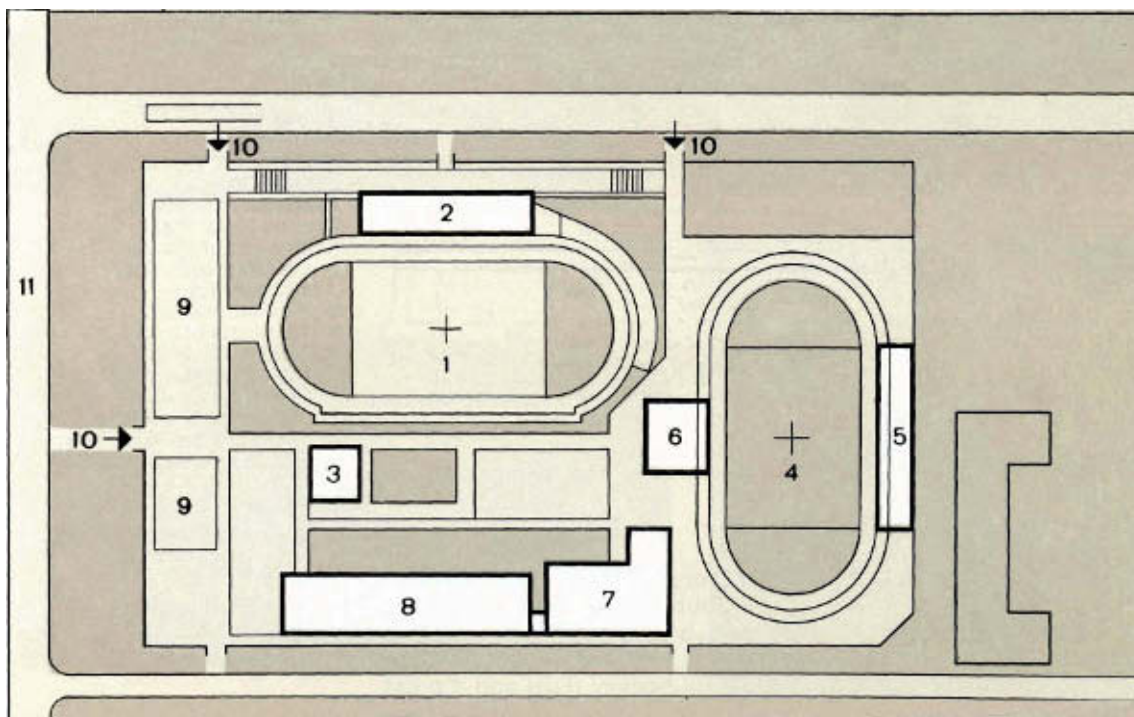




**Young Pioneers' Stadium**
**General Layout**
 1. Competition arena
 2. Permanent stands
 3. Press subcentre
 4. Cycling track
 5. Stands of the cycling track
 6. Sports pavilion
 7. Indoor skating rink
 8. Athletics indoor arena
 9. Outdoor sports grounds
10. Access to the stadium
11. Leningrad Avenue

Construction of the Young Pioneers' Stadium began at the edge of the former Khodynskoye Field more than half a century ago. In 1932 it was reserved for children and acquired its present name.

To prepare the stadium for the Olympic hockey competitions, the playing field had to be modified, the stands and rooms under them modernised. As agreed with the FIH, the existing natural turf was replaced by an artificial surfacing.

Bearing in mind that the site was to be used for training and competi-tions in track-and-field after the Games were over, it was decided to make the surfacing of the playing field removable. Natural turf was removed and drainage haydite-concrete slabs and a layer of porous concrete were placed as the base for the synthetic grass.

The stationary stands with 3,000 seats including sections reserved for VIPs, officials, and members of the press run along the southern side of the playing field. Temporary bleachers were installed on the opposite side to accommodate 2,000 spectators.
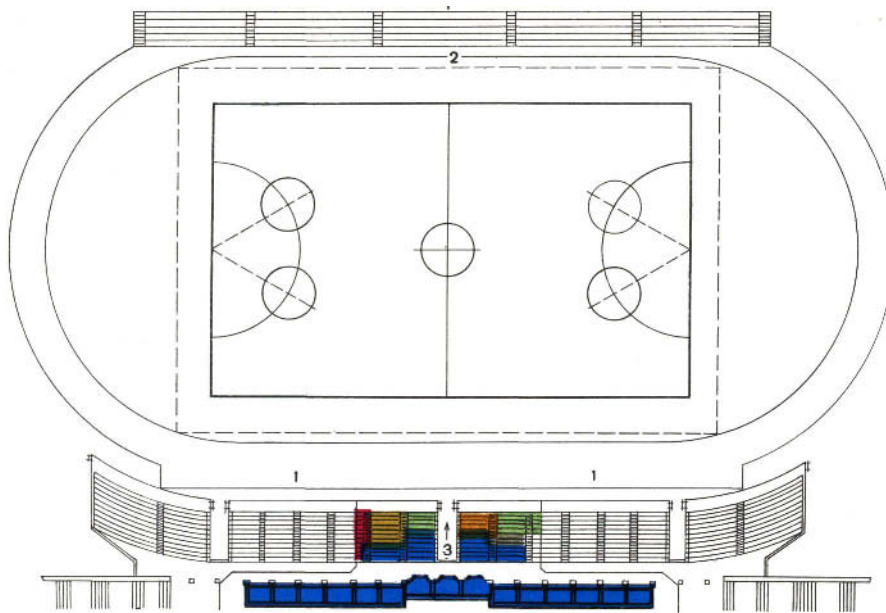
Young Pioneers' Stadium. View of the arena from temporary stands

**Young Pioneers' Stadium Stands Plan**
1. Permanent stands
2. Bleachers
3. Competitors' exit onto arena

Officials' stands (categories A, B, C, G)

Seats for national team members (F category)

Seats for observer missions of organising committees for future Olympic Games (N category)

Seats for the media (E category)

A building on the premises formerly used for the stadium administration offices was adapted as a press sub-centre.

Following the Olympic Games, the stadium again is the seat of the Central Children's Training and Competition Complex. Over 2,000 young athletes regularly practise sports on its open grounds and indoor gyms.

The reconstruction project for the Young Pioneers' Stadium was conceived by Workshop 3 of the Mosproekt-1 Department.

# The Complex of Installations of the Central Sports Club of the Army (CSCA)
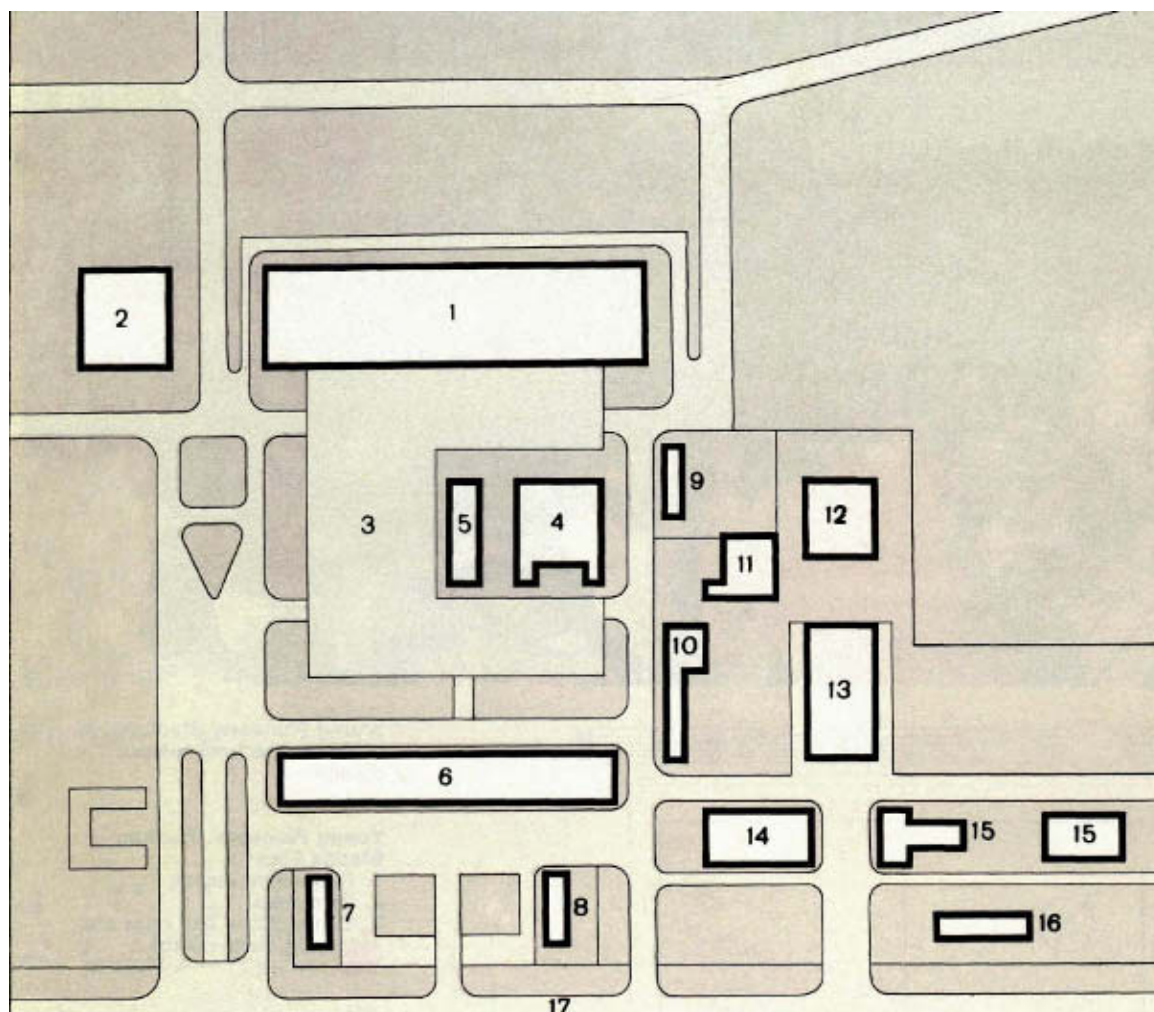


**Facilities of the Central Sports Club of the Army**
1. CSCA Sports Complex (football and athletics fieldhouses)
2. CSCA Sports Palace
3. Parking lot
4. Computer centre
5. Wading pool
6. Central Air Terminal
7. Air Terminal office building
8. Air Terminal hotel
9. Athletes' hostel
10. Dispensary
11. CSCA Tennis Hall
12. CSCA Weightlifting Hall
13. CSCA Ice Palace (multisports arena)
14. CSCA indoor swimming pool
15. CSCA gyms
16. CSCA office building
17. Leningrad Avenue

For the Games of the XXII Olympiad, two more facilities—an imposing building of the CSCA Sports Complex including the football field and track-and-field, and the CSCA Palace of Sports—were added to the sports facilities of the club on Leningrad Avenue, which included a multipurpose indoor arena, a stadium with 10,000 seats, an indoor swimming pool, the Weightlifting Hall, halls for gymnastics and team sports, as well as open sports grounds.

The new installations were specially prepared for Olympic fencing, wrestling and basketball competitions.

The Sports Complex consists of two areas—football and athletics fieldhouses—integrated into a single entity by a central unit housing gyms and services.

The building is 306 by 108 metres. Its height (16 m) is limited by the presence of a nearby airfield so the spectator lounge and athletes' quarters were set up in the basement. A cafeteria for 200 competitors, an auditorium with 250 seats, a hall for the Sports Glory exhibition, and technical services were also located there.

The playing field in the football fieldhouse, 110x60 m in size, was covered with a synthetic material. Olympic fencing competitions on 17 metallic pistes were staged there during the Games.

The athletics fieldhouse, measuring 126 by 84 metres, houses a 200 m closed-loop track with four lanes and curves 16 m in radius, a six-lane, 126 m long, straight for the 60 m, 100 m, and 110 m hurdles, a training walk course, sections for long jump, pole vault and high jump. A special area was set aside for discus and javelin throwing and for shot put. Four mats were laid out there on sectional platforms during the Games for Greco-Roman and freestyle wrestling competitions.

Both fieldhouses have scoreboards.

In addition to service rooms, the central six-level unit contains training halls; one, 48x24 m in size, for team-sports and the other, measuring 48 by 18 metres, for general fitness exercises.

In the two fieldhouses and the central block there are also 15x9 m halls for body building.
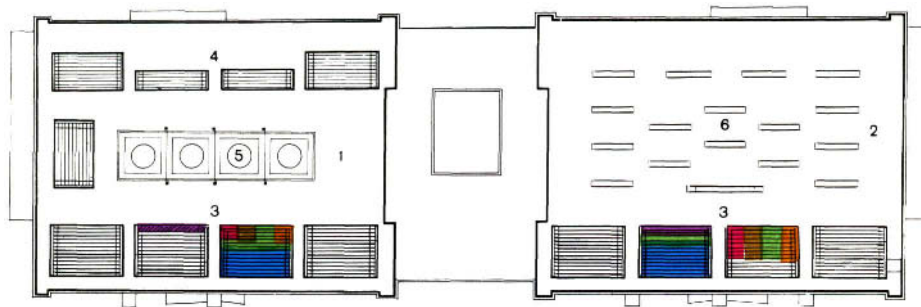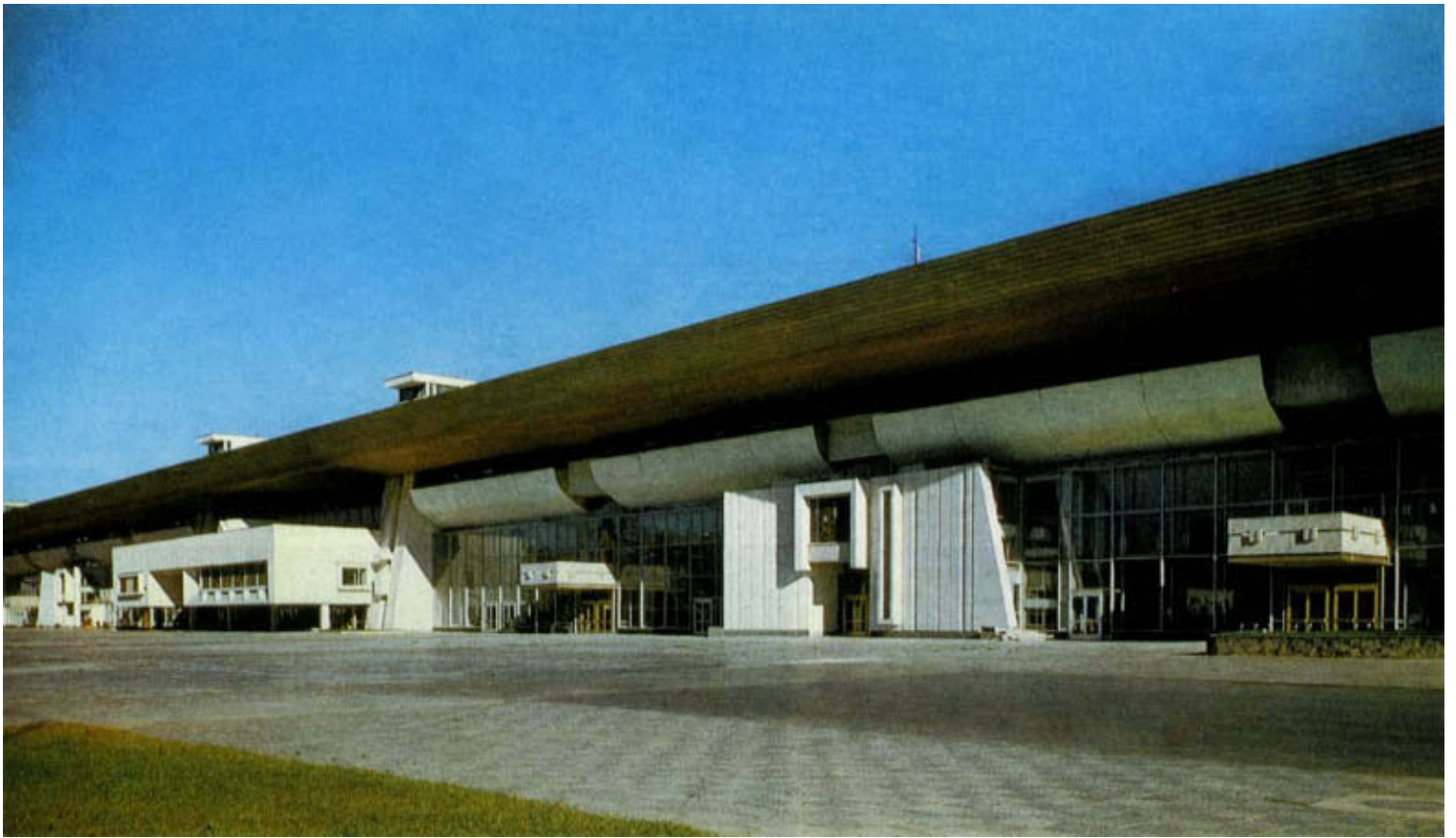
CSCA Sports Complex (Football
and Athletics Fieldhouses)
Plan of the Stands During the
Games

1. Wrestling hall (athletics fiel-
   dhouse)
2. Fencing hall (football)
3. Permanent stands
4. Removable stands
5. Platforms with mats
6. Fencing pistes

   ▮ Officials stands
   (categories A, B, C, G)

   ▮

   ▮

   ▮

   ▮ Seats for jury members
   and technical officials (D
   category)

   ▮ Seats for national team
   members (F category)

   ▮ Seats for the media (E
   category)

The capacity of the stands, includ-ing seats in the gallery, is 6,000 for each fieldhouse. The spectators are provided with spaceous lobbies and cloak rooms under the stands. In addition, sections for VIPs, officials, and members of the press with sepa-rate entrances and services were set aside in each fieldhouse. Additional sectional bleachers to accommodate 2,500 spectators were installed in the athletics fieldhouse for the period of the Games.

The building is supported structur-ally by a metal skeleton. Curtain walls of upper floors were assembled from haydite-concrete panels and stained-glass double panels enclosed in anod-ised aluminium frames. Interior parti-tions were made of precast concrete units. The flooring was made of con-crete slabs with spectator stands rest-ing on prefabricated concrete struc-tures. The roofs of the halls spanning 84 metres were assembled from pre-cast prestressed space block panels, each 100x3 m in size and 4 m deep.

After the Games, the football and athletics fieldhouses began to be used
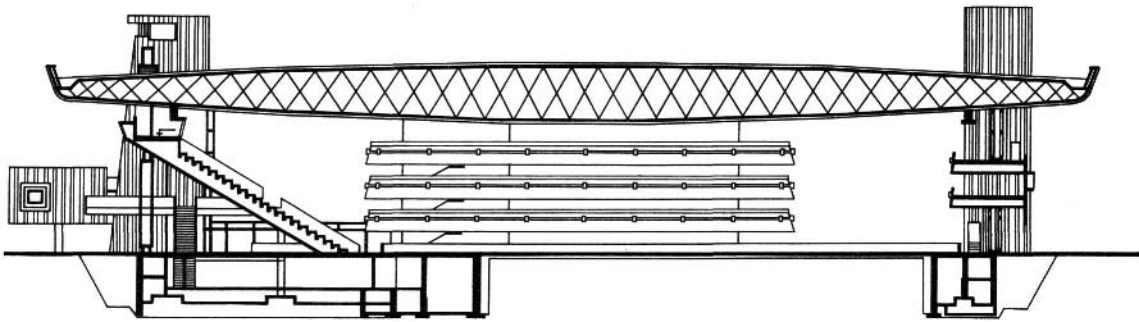
CSCA Sports Complex
(Athletics Fieldhouse)
Cross Section

Spectator seats

Wrestling events at the Athletics Fieldhouse

Exit onto the arena
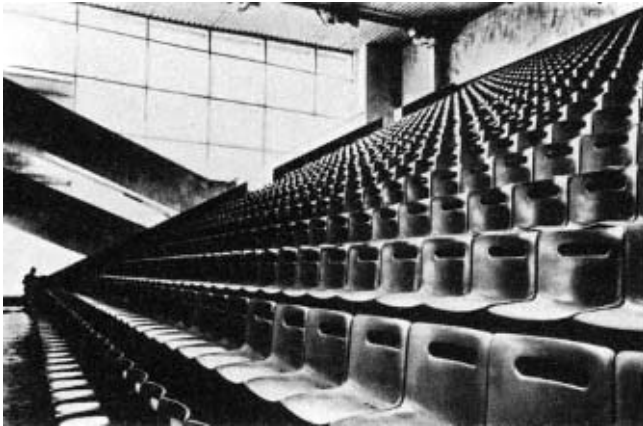




for competitions and training in various sports.

The Palace of Sports was erected close to the CSCA Sports Complex. Basketball competitions were staged in its hall during the Games.

The Palace covers an area of 108 by 84 metres and is 27 m high. The main audience hall of the Palace measures 84 by 40 m with a height of 18 m. The stands, with 5,000 seats, are located on both sides of the court. Lobbies with cloak rooms are located under the stands, lounges and services in the basement. A scoreboard was installed in the hall.

In addition, in the Palace there are two training halls, each 36x18 m and 8 m high, 15 locker rooms with showers, saunas, rehabilitation cabins, class-rooms, utility spaces, and administration offices, which were planned so as to eliminate any mixing of spectators and competitors.

Prefabrication techniques and industrialised erection methods were widely used in the construction of the Palace.

Competitions and training in team sports have been held in the Palace in the post-Olympic period.



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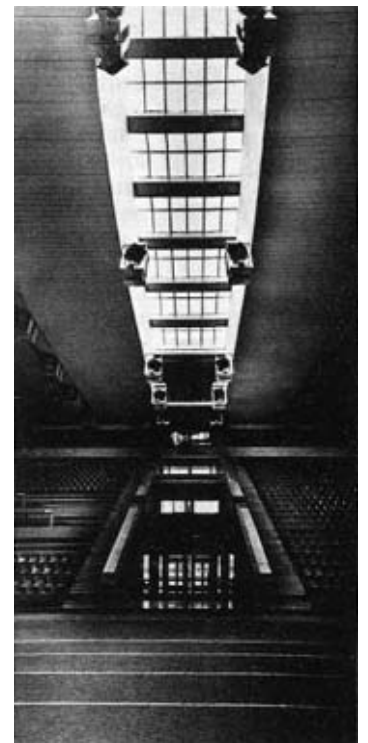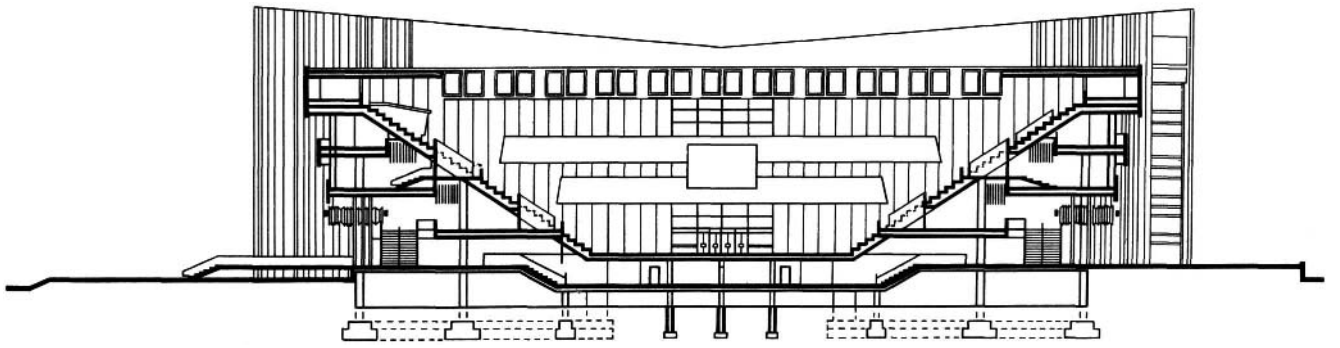
**CSCA Sports Palace
Cross section**
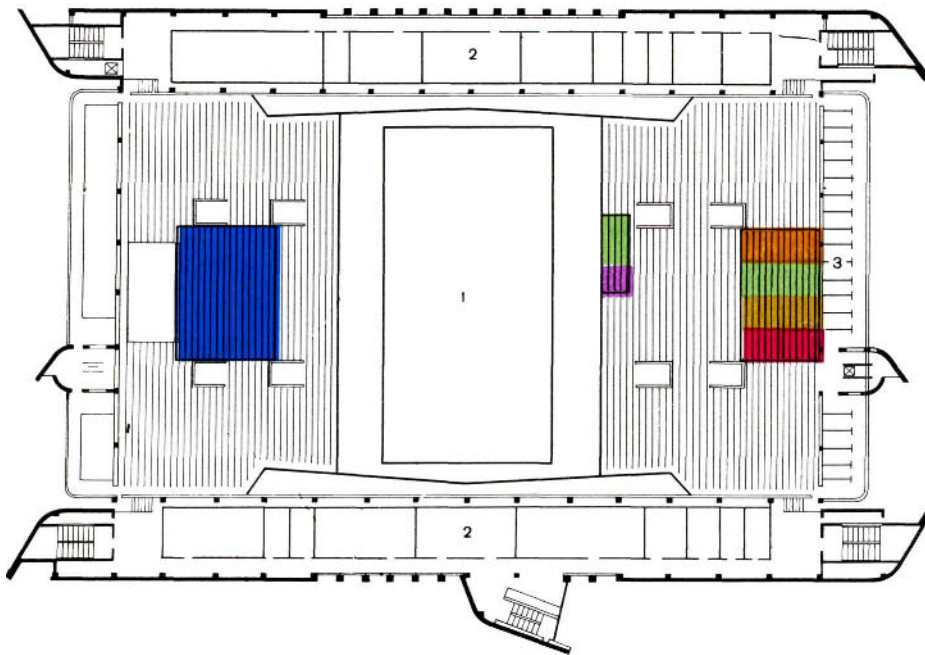
**CSCA Sports Palace
Stands Plan**
1. Competition arena
2. Utility rooms
3. Commentator booths

 Officials' stands
(categories A, B, C, G)







 Seats for the media (E category)

 Seats for national team members (F category)

 Seats for jury members and technical officials (D category)
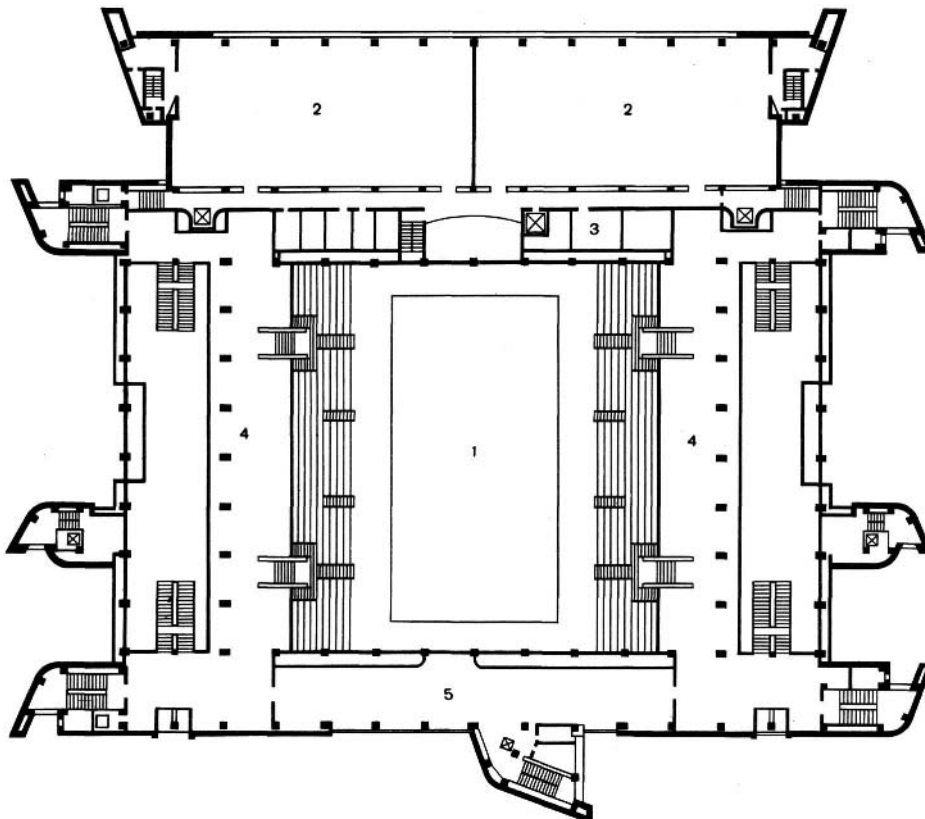
**CSCA Sports Palace
First Floor Plan**
1. Competition arena
2. Training halls
3. Competitors' quarters
4. Lounge
5. Snack bar

# Dynamo Palace of Sports



The Dynamo Palace of Sports, built for the Games in the northwest of Moscow, has become a landmark of the Khimki-Khovrino residential area. The Rechnoi Vokzal Metro Station is situated near the Palace.

The building stands in Lavochkin Street facing Druzhba Park. A plaza spreads out in front of it, with greenery, pool and fountains.

The Dynamo Palace of Sports hosted Olympic handball competitions.

The competition arena with stands takes up most of the building's interior. Two training halls for team sports are adjacent to it on opposite sides. The main entrance for the spectators leads to the arena via a stylobate, from which they come up four stairs to the lounge, which skirts the arena. The stylobate roof also serves as a terrace for promenade.

The height of the competition hall is 16 metres. The competition arena measures 48 by 26 metres and is covered with a synthetic material. The stands, with space for 5,000 spectators, are located lengthwise. They are connected by passage balconies at the ends. Some seats were mounted on the balconies, too. Sections for VIPs, officials, and members

of the press were set aside on the stands.

Eight locker rooms were installed, complete with showers, near the arena. Two training halls, each 42x24 m and 8 m high, have their own locker rooms, showers, and saunas that can be used independently from any events held at the arena. These halls were used for warming-up during the Olympic Games. The floors of the halls also have synthetic surfacing.

A hall for body building, 21x18 m in size, located in the central part of the stylobate ground floor, is connected to the locker rooms of the training halls and is designed for the individual training of athletes.

Administration offices on the ground floor were used as quarters for technical officials and the award squad during the Olympic Games.

In the stylobate part of the building, close to the press box, commentator positions and judges' area, there was a press subcentre. Quarters for technical officials were also set up there and connected with the information centre.

Structurally, the Palace of Sports consists of a cast-in-situ reinforced concrete framework, which also supports the stands, assembled from precast concrete elements.

**Façade of the Dynamo Sports Palace on Lavochkin Street in Khimki-Khovrino**
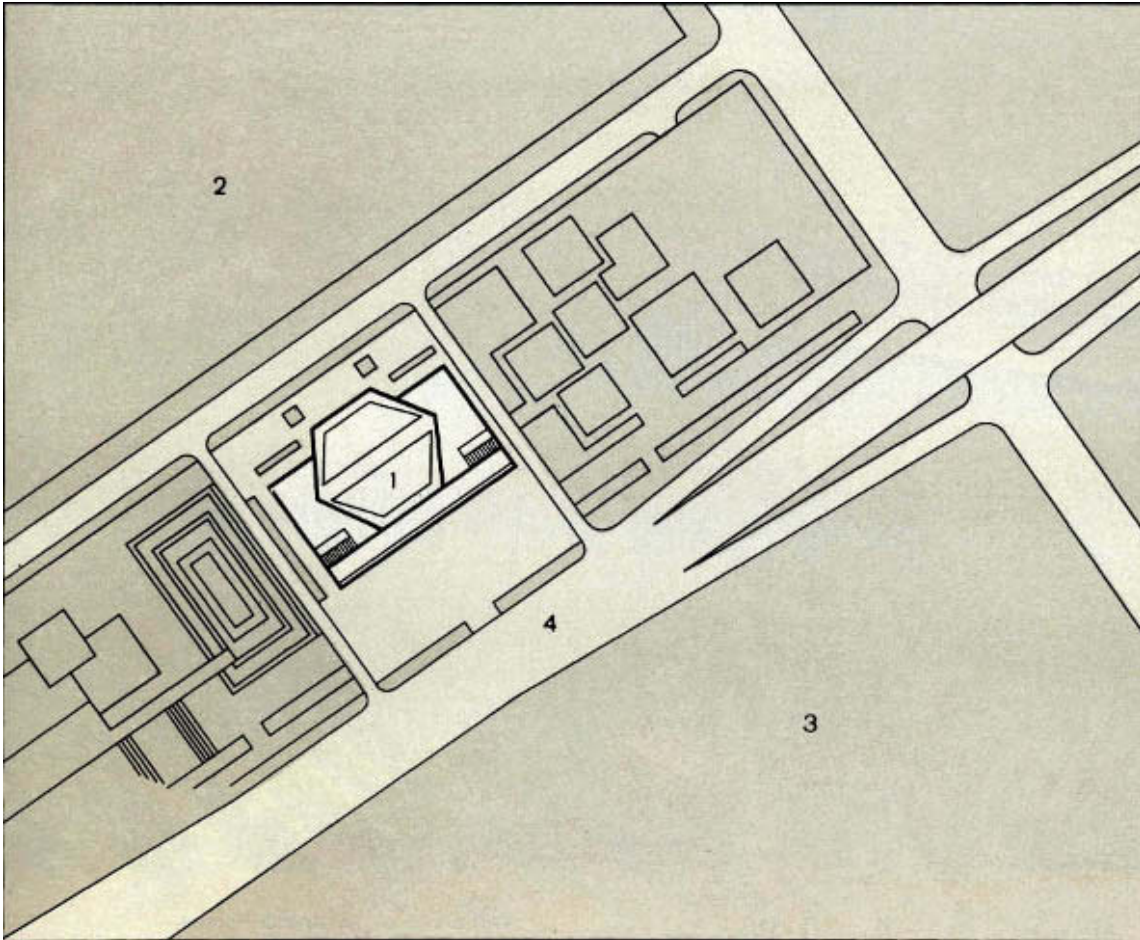
**Dynamo Sports Palace
General Layout**
1. Sports Palace
2. Khimki-Khovrino residential
   area
3. Druzhba Park
4. Lavochkin Street

**Dynamo Sports Palace
Plan at Elevation +0.30 m**
1. Competition arena
2. Dressing-room area for
   competition arena
3. Press quarters
4. Technical officials' quarters
5. Spectators' area
6. Competitors' exits onto arena
7. Training halls (second light)
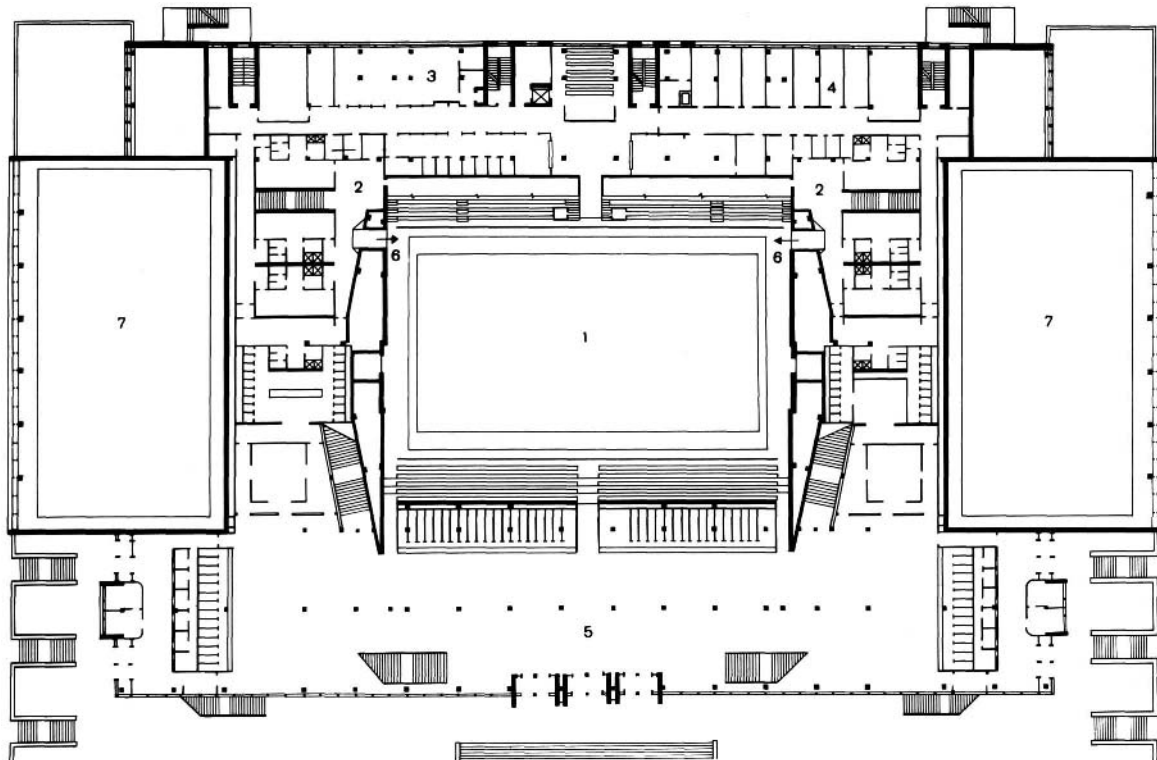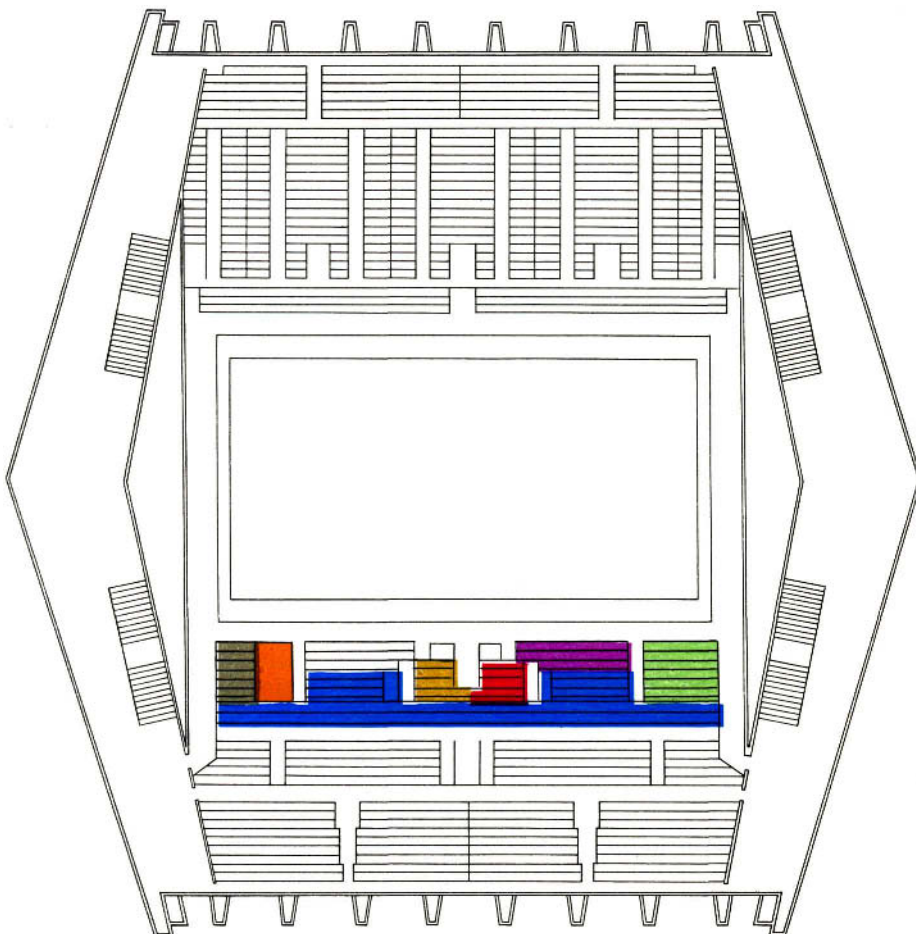
The arena of the Sports Palace that saw the Olympic handball games

**Dynamo Sports Palace Stands Plan**

Officials' stands (categories A, B, C, G)

Seats for jury members and technical officials (D category)

Seats for national team members (F category)

Seats for observer missions of organising committees for future Olympic Games (N category)

Seats for the media (E category)
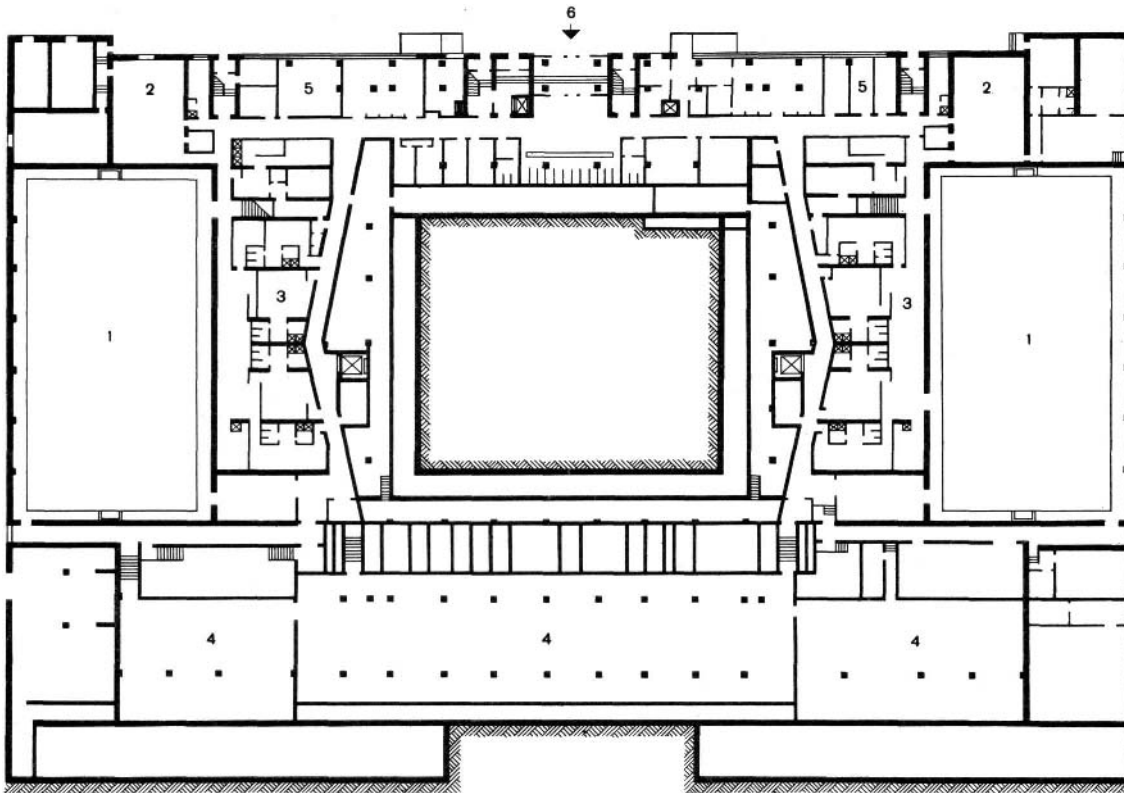
**Dynamo Sports Palace**
**Plan at Elevation −3.0 m**
1. Training halls
2. Halls for training with weights
3. Dressing-room areas for
   training halls
4. Utility rooms
5. Offices
6. Entrance for athletes

**Dynamo Sports Palace**
**Cross Section**
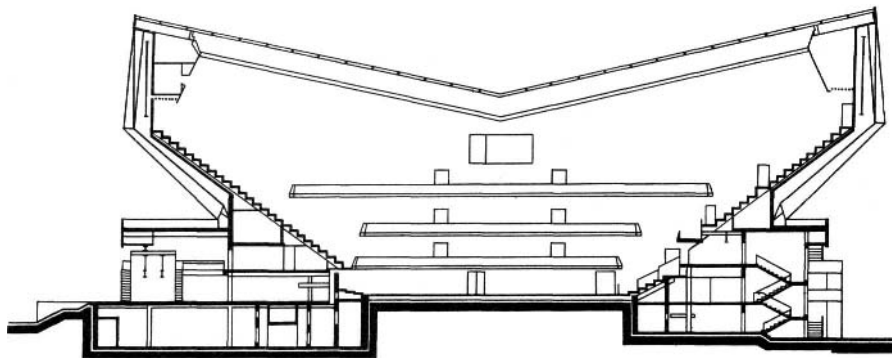
The cladding of the two-storey stylobate and of the overhang above consists of lightweight wall panels and brick.

The 78x66 m roof of the multi-sports hall is supported by suspended diagonal trusses with parallel tension chords. These rest on steel cantilevers. An acoustical and decorative ceiling is suspended from the lower chord of the trusses, as are sound and ventillation equipment and the hoisting machinery of the stage.

The large-span roof of the arena, which is of an unequal height all over, saved a lot of metal.

The Sports Palace is being used as an educational and training facility of the Dynamo Sports Society in the post-Olympic period. Competitions in 12 sports—volleyball, basketball, handball, tennis, b a d m i n t o n, table tennis, boxing, wrestling, callisthenics and gymnastics, acrobatics, and weightlifting—are regularly staged there. In addition, cultural events and public gatherings are held.

The Palace of Sports was designed by the Mezentsev Central Research and Design Institute of Entertainment Buildings and Sports Installations.
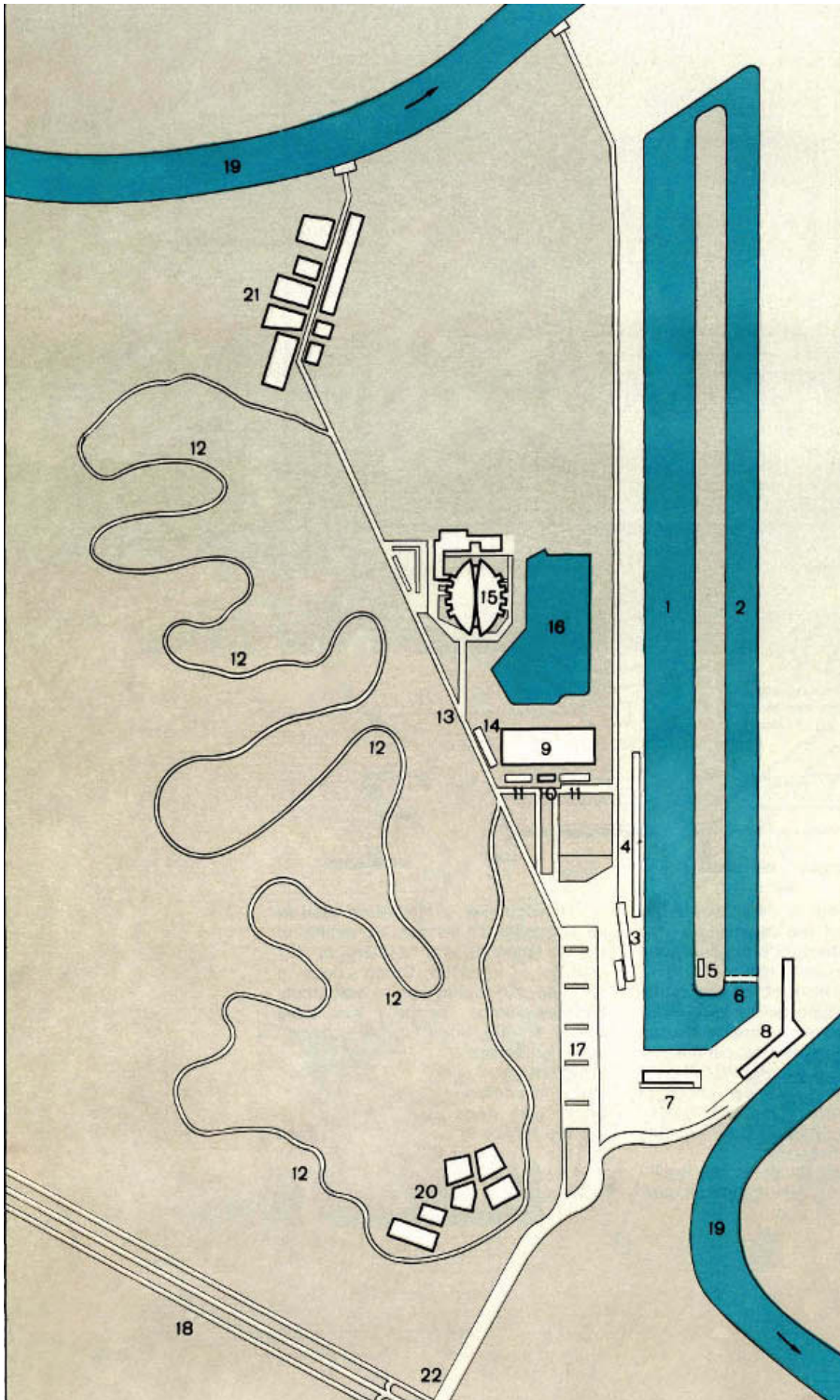
**Sports Complex in Krylatskoye
General Layout**
1. Channel of Canoeing and Rowing Basin
2. Return channel
3. Basin main stands
4. Bleachers
5. Stands for athletes on island
6. Bridge to island
7. Boathouses
8. Sports building attached to the Basin
9. Archery field
10. Sports building attached to the archery field
11. Bleachers
12. Cycling circuit
13. Cycling circuit home stretch
14. Mobile stands for cycling circuit
15. Velodrome
16. Pond
17. Parking lot
18. Rublevo Highway
19. Moskva River
20. Krylatskoye
21. Tatarovo
22. Main approach to the Complex

# Canoeing and Rowing Basin



The natural environment in the area of this sports complex is favourable for the physical education, sports and recreation of Muscovites. The complex includes a Canoeing and Rowing Basin, archery fields, the Velodrome, and a cycling circuit.

The Molodezhnaya Metro Station, nearest to the complex, is connected to it by bus. The river crafts run from the centre of the city.

The first part of the Basin was completed in 1973 for the European Rowing Championships and was praised by experts. The second part was constructed in 1979 for the finals of the VII USSR Summer Spartakiade. The Olympic canoeing and rowing competitions were held there.

The Basin is filled with water flowing by gravity from the back of the Karamyshevskaya weir on the Moskva River. It is drained when winter arrives, which improves the conditions for its use. The Basin is 2.3 km long and 3.5 m deep. The water table of the main channel is 125 m wide. A return channel 75 m wide was made, parallel to the main one, to be used for training and for the boats to proceed to the starting line. This was the first such return channel in international sports construction practice.

The main channel is divided into eight lanes, 13.5 m wide for rowing

**The Sports Complex in Krylatskoye. General view**
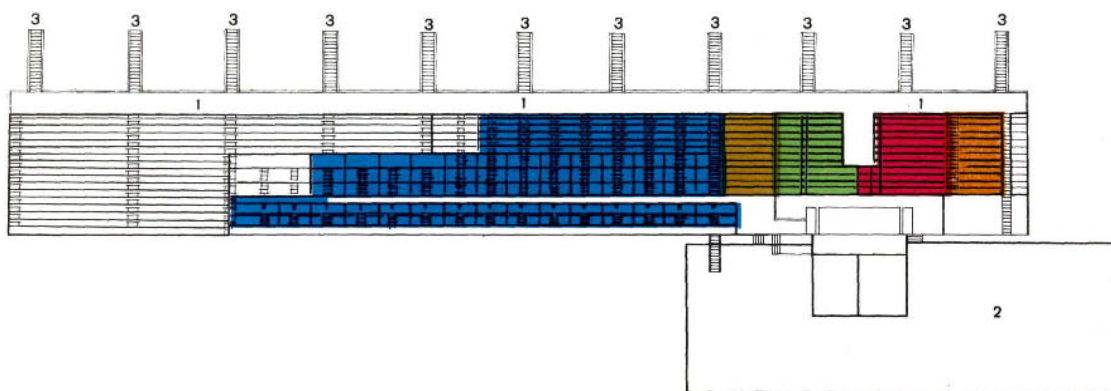
The main stands of the Canoeing and Rowing Basin with an adjacent service building

**Canoeing and Rowing Basin Main Stands**
**Plan**
1. Spectators' stands
2. Service building
3. Staircases for the stands

- Officials' stands (categories A, B, C, G)
- Seats for the media (E category)

competitions or into eleven lanes for canoeing. Posts for judges were installed along the course every 250 m.

A nine-metre judges' and officials' tower was erected at the starting line of the 2,000-m course and a raft with telescopic devices used to align starting boats was installed. The starts for other races were made from floating towers and rafts.

The main stationary stands sheltered by an overhang and seating 3,400 spectators were located in the finish area of the Basin. Some of the seats was reserved for VIPs, officials, members of the press, broadcast commentators, and judges for the period of the Games. In addition, one more spectator stand with 1,830 seats was installed on an earth slope and temporary bleachers with 9,300 seats were added to them on the left-hand side. Standing room for more than 5,000 spectators was provided behind; 1,200 seats for competitors were located on the island formed by the main and return channels, including 900 dismountable seats.

The main stands were fixed on steel supports. They were turned by 8 degrees to the longitudinal axis of the Basin, thus ensuring good visibility from all seats.

A stand for technical officials and a room for photofinishing equipment were adjacent to the main stands. A three-storey service building adjoined the stands on the earth slope. They were connected by passages at two levels. The service building had three separate entrances: for VIPs, members of the press, and technical officials. The flat roof of the building was used for observation purposes. The ground floor housed services and a bar. The first floor contained the quarters of international sports bodies and a conference room for judges. Press subcentre was located on the second floor.

Boathouses integrated into one unit with space for 400 boats, accreditation services and the information office were located at the end of the channel in the finishing area. Additional open racks for boat storage

Spectators at the main stands

**Canoeing and Rowing Basin
Main Stands
Section of Stands and Service
Building**
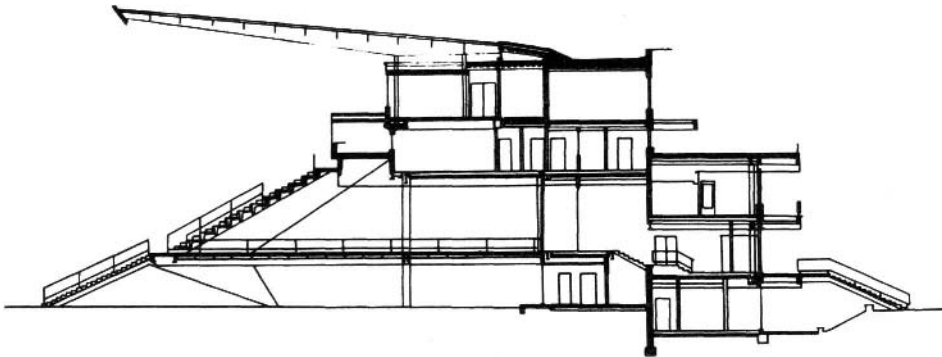
**Canoeing and Rowing Basin
Service Building
Plan**
1. Officials' quarters
2. Jury members and technical
   officials' area
3. Office
4. Access to stands for officials
   and distinguished guests
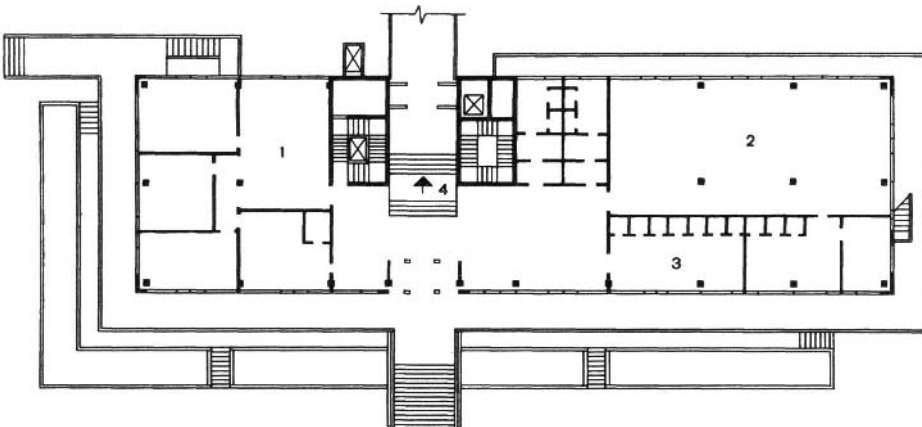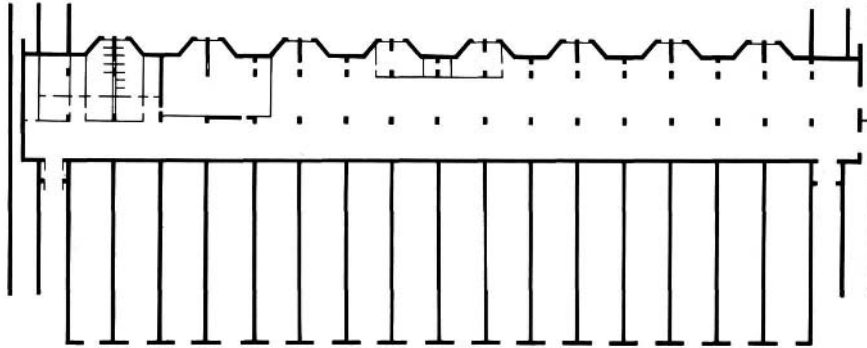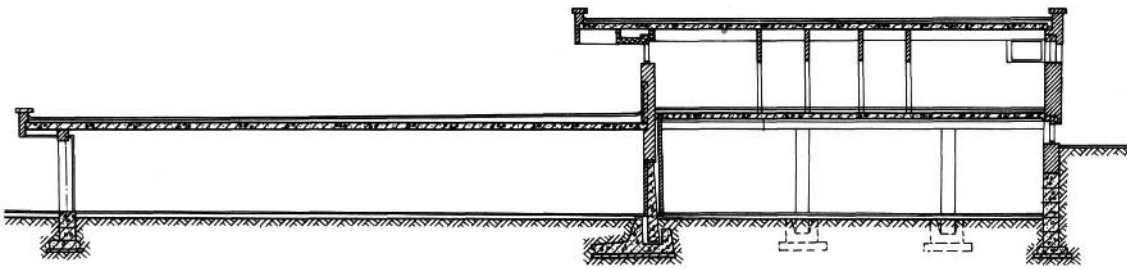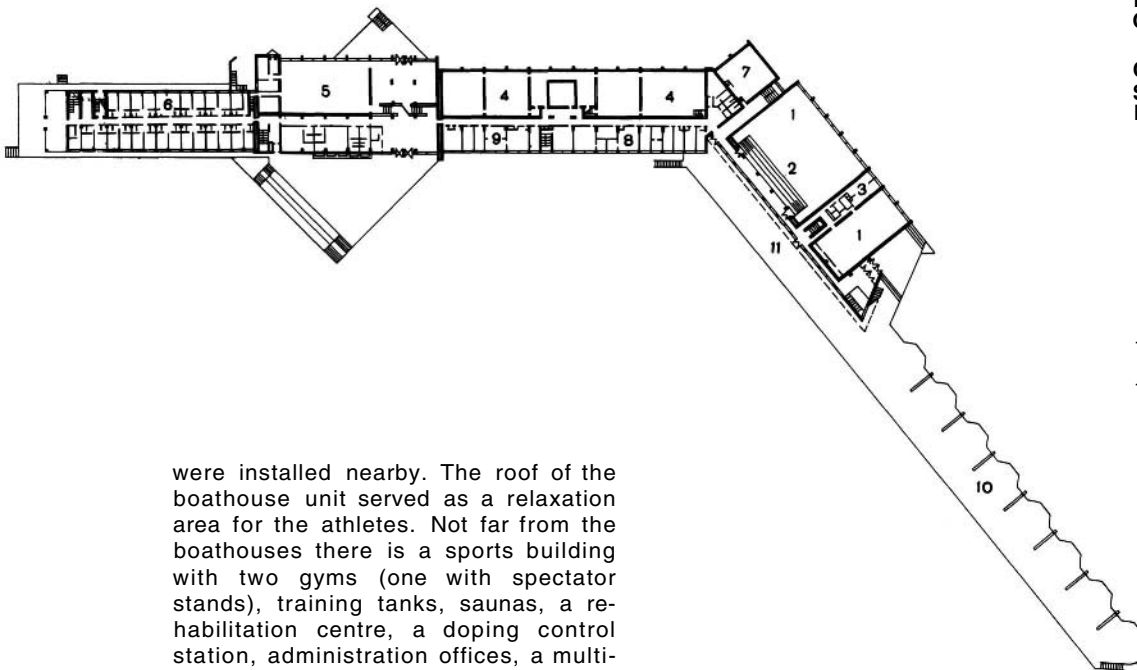
were installed nearby. The roof of the boathouse unit served as a relaxation area for the athletes. Not far from the boathouses there is a sports building with two gyms (one with spectator stands), training tanks, saunas, a rehabilitation centre, a doping control station, administration offices, a multipurpose auditorium with 370 seats, a cafeteria, rest areas for 100 athletes and 13 locker cabins, each with space for 30 to 35 rowers.

A bridge crossing the return channel gives access to the island for competitors and technical officials. A cycling track runs around the perimeter of the island to be used by coaches directing the training process.

A scoreboard was installed on the island at the finish to display air temperature and wind velocity in addition to competition results.

A service building was constructed on the premises to house boat repair shops and garages for vehicles.

The basin is now used for rowing and canoeing competitions and training. The indoor tanks and gyms allow athletes to train and practise the whole year round.

The Canoeing and Rowing Basin was designed by Workshop 7 of the Mosproekt-2 Department.

# Archery Fields
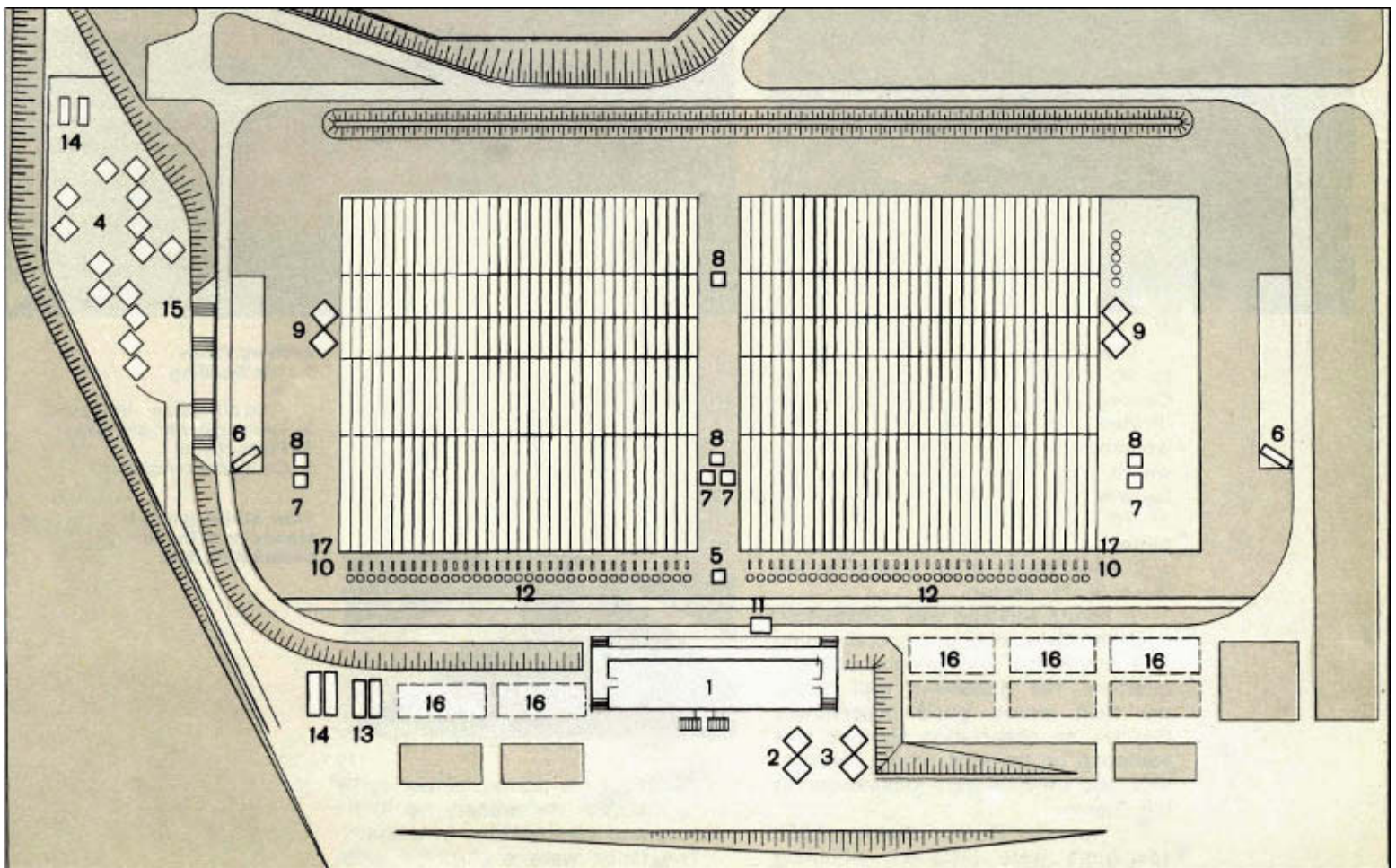




**Archery Fields**
**General Layout**
1. Sports building
2. Press subcentre (temporary pavilions)
3. Administration (temporary pavilions)
4. Dressing rooms for competitors (temporary pavilions)
5. Tower for director of shooting
6. Mobile scoreboards
7. Signal lights
8. Wind gauge
9. Scorers
10. Judges at shooting line
11. Podium
12. Parasols for competitors
13. Toilets for spectators
14. Toilets for competitors
15. Medical service
16. Bleachers
17. Shooting line
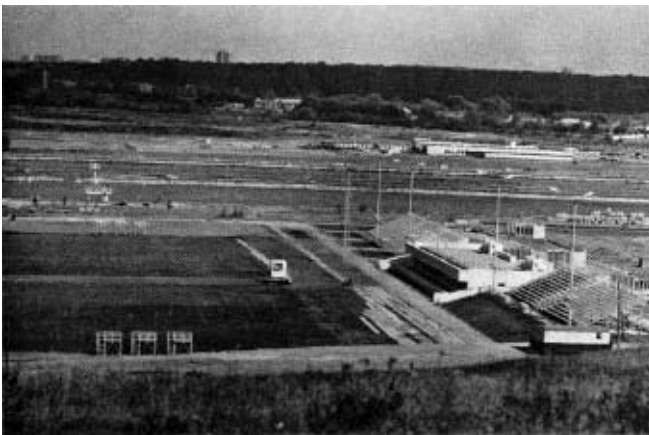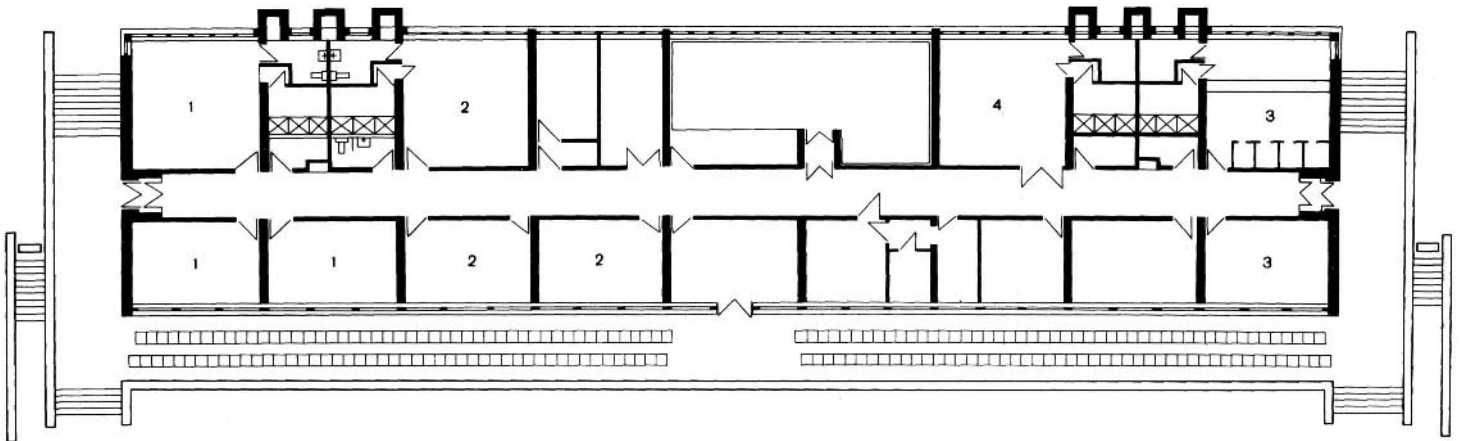
The archery fields, measuring 220 by 90 metres, is located close to the Canoeing and Rowing Basin. It is divided into sectors for men and for women by a corridor, 10 m wide, where a tower for the shooting director was installed. The field had a total of 70 galleries, each with its own target. Pavilions for technical officials and scoreboards were located on the sides of the sectors.

A sports building was constructed near the field to house scorekeeping and information services and officials' quarters. The glassed-in wall facing the field allows good observation. Besides, an observation platform was equipped on the roof, where seats for VIPs and officials were located during the Games.

Temporary stands seating 3,000 spectators were installed, adjoining the later walls of the building.

A training field was provided near the competition field.

Following the Games, active use is being made of the archery fields for training and competitions in archery.

The fields were designed by the Moscow Research and Design Institute of Cultural, Recreational, Sports, and Health Facilities.

**Archery Fields**
**Sports Building**
**Plan**
1. FITA offices and VIP lounge
2. Technical officials' quarters
3. Press rooms
4. Computer terminal rooms

**View of the sports building and stands near the archery competition field**

During the preparations for the Games an indoor velodrome was erected in a natural slope near a floodland of the Moskva River. The natural gradient of the terrain made it possible to arrange the flows of arriving competitors, spectators, and vehicles at different levels. It was used for cycling track events during the Games.

A unique roof design made it possible to form a huge hall completely free of all interior supports. It accommodated a cycling track and 6,000 spectator seats. Sections for VIPs, officials, and members of the press were reserved on the stands. Located under the stands and in the stylobate were all the required services, including competitors', judges' and coaches' quarters, a press subcentre, repair shops, and storage area for equipment.

A scoreboard suspended in the centre of the Velodrome helped spectators to follow the progress of competitions on the track.

The track surface was the world's first to be made of Siberian larch. Its parameters approved by the International Amateur Cycling Federation include a length of 333.3 metres and a width of 10 metres. The straights are inclined at an angle of 11 degrees. The turns, with a radius

**Interior of the Velodrome during the Olympic competition**

**Part of the stands**

98
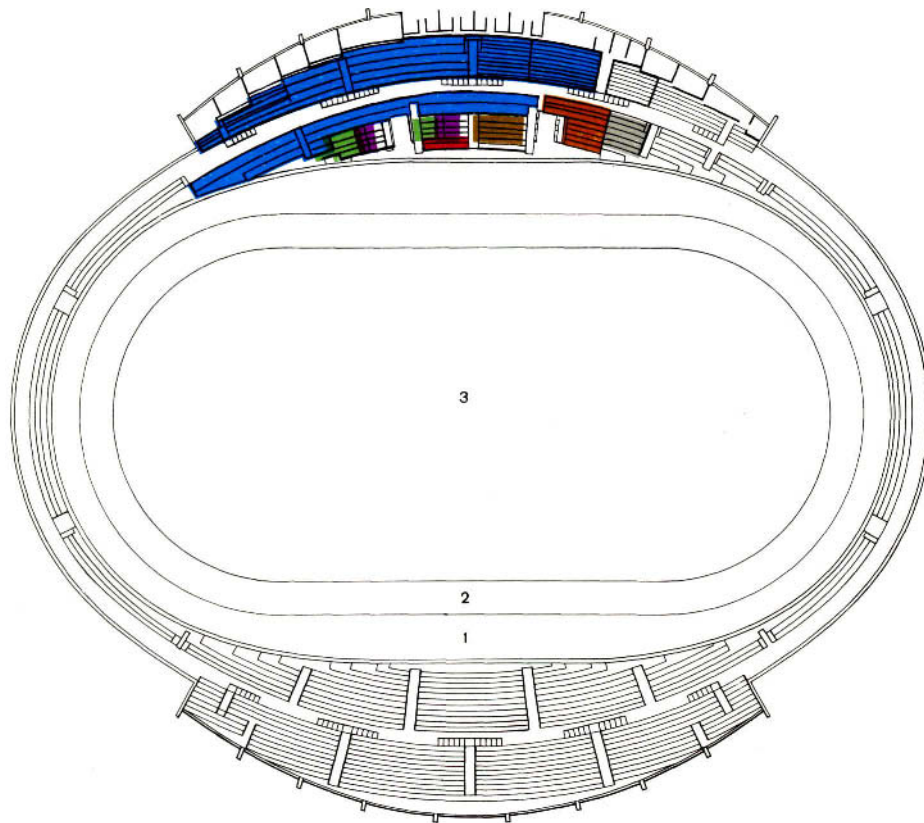
**Velodrome
Stands Plan**
1. Cycling track
2. Slow-riding area
3. Centre area

Officials' stands
(categories A, B, C, G)

Seats for national team
members (F category)

Seats for the media (E
category)

Seats for observer
missions of organising
committees for future
Olympic Games (N
category)
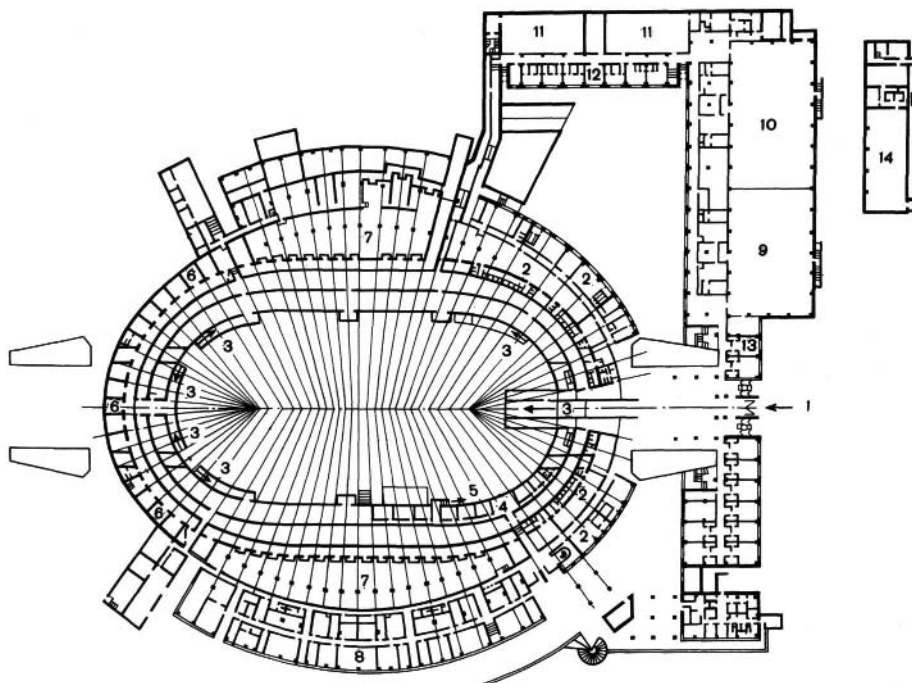


**Velodrome
Plan at Elevation −0.30 m**
1. Entrance for competitors
2. Competitors' dressing rooms
3. Ramps for riding into the
   centre area
4. Technical officials' quarters
5. Access to the centre area for
   technical officials
6. Storage of bicycles and
   motorcycles
7. Utility rooms
8. Communications, radio and
   television rooms
9. 36x18 m gym
10. 42x24 m gym
11. 24x12 m gym
12. Dressing rooms for the gyms
13. Hotel for athletes
14. Engineering building

of 33 metres, are inclined up to 42 degrees. The central area, covered with a synthetic surfacing, is suitable for competitions in track-and-field, team sports, etc.

The Velodrome is nearly oval, with axis 168 and 138 metres long. The roof consists of two membrane saddle-shaped shells of steel sheets, 4 mm thick, fixed on four inclined hingeless arches, each spanning 168 m. The steel box-shaped arches, 3x2 metres, are supported by huge foundation reinforced concrete pillars. Outer arches outlining the roof also rest on cantilevers of the stands girders and the inner ones are braced into a space block and have no intermediate supports.
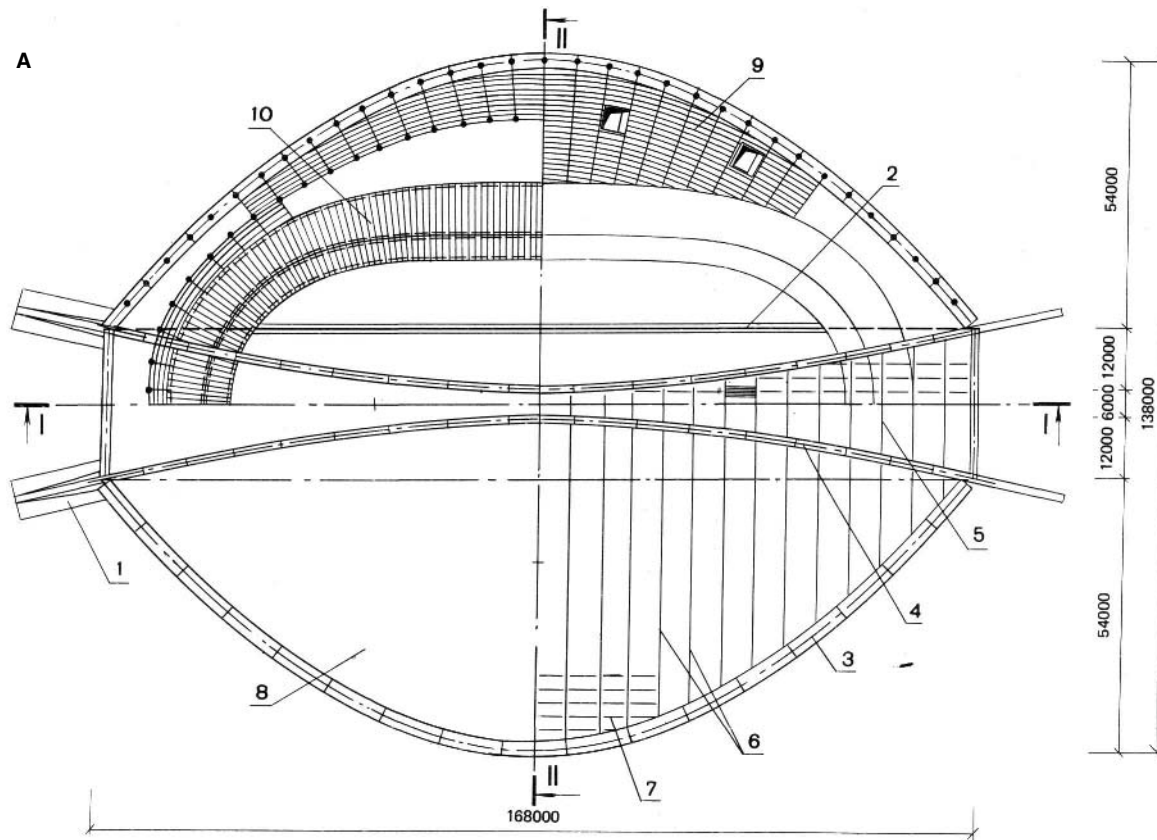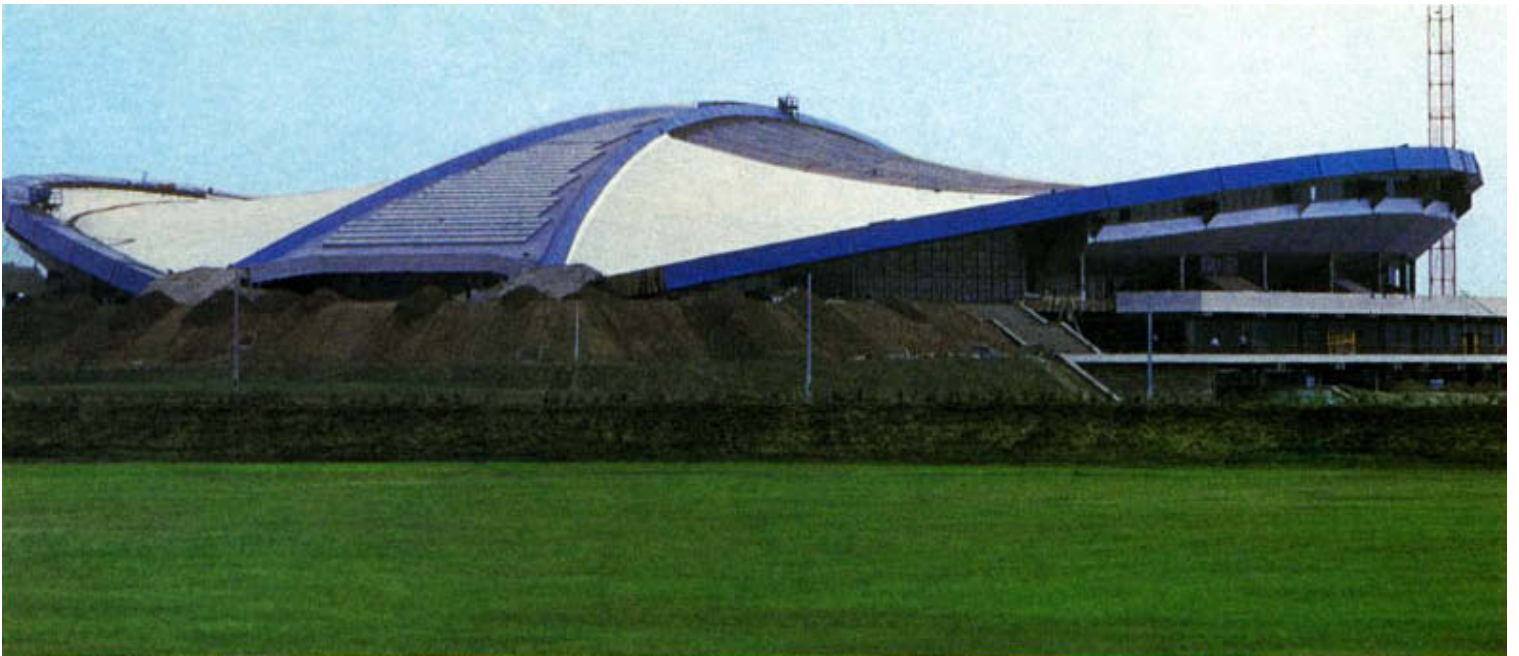
**Velodrome nears completion. Roofwork**

**Velodrome Design Diagram (Plan, Sections)**

1. Support foundations
2. Collar beams
3. Outer edge
4. Inner edge
5. Trusses
6. Guides
7. Girders
8. Steel membrane
9. Stands components
10. Reinforced concrete base for track
    A—Plan
    B—Longitudinal section (I—I)
    C—Cross section (II—II)
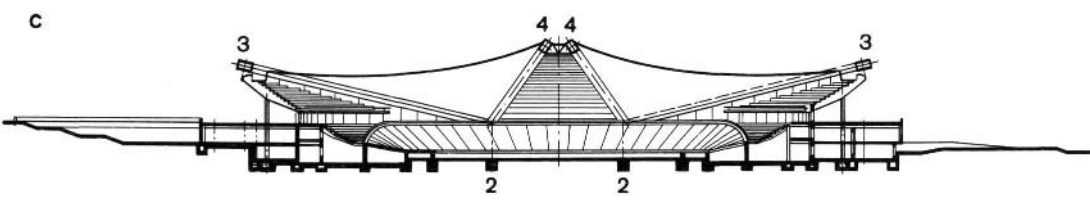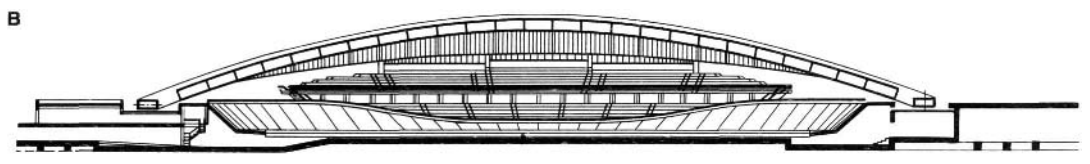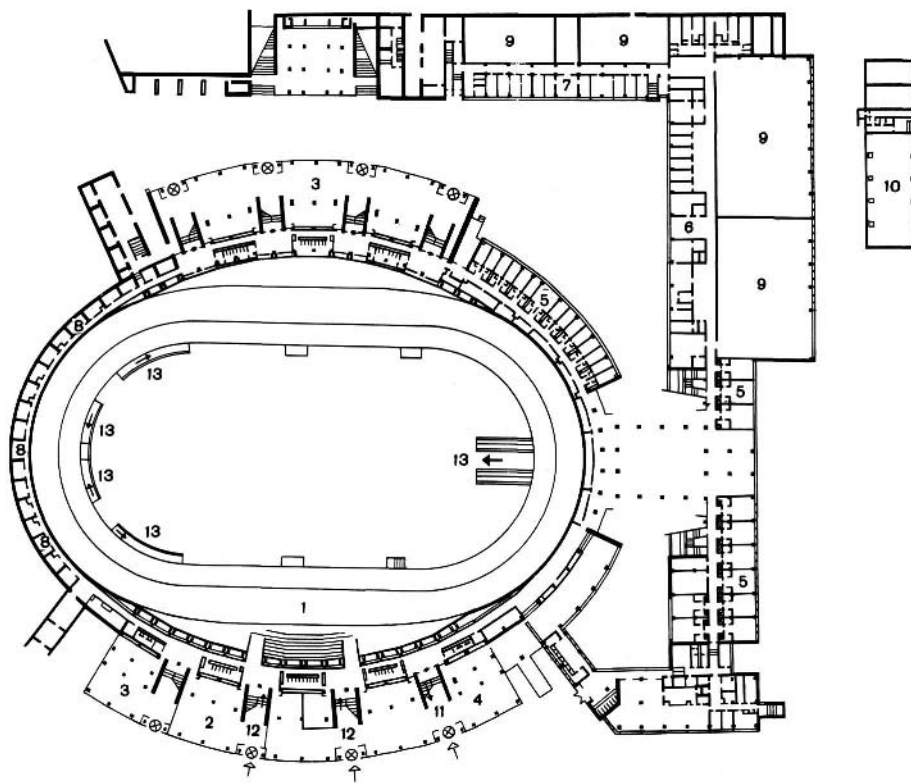
**Velodrome**
**Plan at Elevation +3.60 m**
1. Track
2. Officials' and VIP area
3. Spectators' area
4. Press quarters
5. Hotel for athletes
6. Rehabilitation centre
7. Office
8. Storage area
9. Gyms (second light)
10. Engineering building
11. Access to stands for the media
12. Access to stands for officials and guests of honour
13. Ramps for riding into the centre area



**Suspended scoreboard**
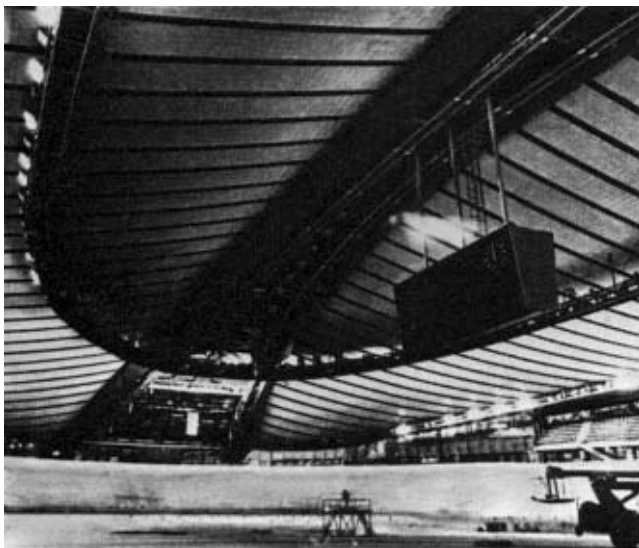
The membrane, delivered to the site in rolls, was rolled out along guides made of steel strips and located along the shorter axis of the structure. The guides were joined longitudinally by stabilising trusses, the lower chords of which functioned as ties together with the membrane. The membrane was covered with an insulation material and roofing consisting of three layers of ruberoid and one layer of folgoisol.

A service unit made of precast concrete units was erected near the Velodrome. It houses four sports halls: one for gymnastics, 42x24 m in size, another for team sports, measuring 36x18 m, and two 24x12 m halls for body building and practice on cycling machines. It also contained locker rooms for competitors with showers and massage rooms, a sauna with a swimming pool and a rest area, a first-aid station with rooms for rehabilitation, a café seating 70 people, and a hotel with 130 beds.

The installations of the Velodrome also include a utility building containing a refrigeration plant, a pump room, a transformer room, and cooling towers.

In the opinion of the experts, the Velodrome, and particularly its track surface made of Siberian larch, are the best in the world. For example, Giuliano Pacciarelli, the General Secretary of the FIAC, said: "At the Olympics we undoubtedly saw the best indoor track, aesthetically and technically, in the world. The track itself provides ideal conditions for high speed, and in our view will revolutionise our ideas of possible sprinting speeds. Krylatskoye is undoubtedly the track of the future."

Apart from its primary purpose, since the Games the Velodrome is being used as a multi-sports hall for competitions and training in certain sports.

The design of the indoor velodrome won the first prize at a contest of architects held before the Olympic Games. It was designed by Workshop 4 of the Moscow Research and Design Institute of Cultural, Recreational, Sports, and Health Facilities.

# Cycling Circuit





The cycling circuit has many
sharp turns and ups and downs

The cyclists on the home
stretch

For the first time in Olympic history a ring road was built specially for the individual road race. It is quite near to the Velodrome and runs along the slope above the flood land of the Moskva River. It is 13.5 m long, including a finishing straight of 1.2 km. The route is 7 m wide while the finishing straight is 14 m wide.

The road is paved with asphalt and is bordered with 1.5 m wide crushed-stone edges. Mesh fences were installed for the safety of competitors at sharp curves and turns.

The route has four difficult sections with gradients of 35 metres; the total rise in one circle is about 285 metres. There are 101 turning angles on the course. The minimum curving radii are 20 metres, with the maximum being 100 metres. Temporary stands with seats for 4,000 spectators were erected near the finishing line during the Games. Sections were set aside for VIPs and the media and equipped with the necessary communications. A stand for technical officials, cabins for competitors and a parking lot for maintenance and medical vehicles were located at the same place.

The services for cyclists competing or training on the circuit are housed in the nearby Velodrome.

After the Games, the cycling circuit is being used in summer for its primary purpose, i.e. for the training of and competitions between cyclists, and in winter for skiing events.

Down-hill skiing facilities with lifts and a luge course are to be installed there in future.

The cycling circuit was designed by the Moscow Institute for Developing and Designing Engineering Structures.

A section from the 23rd to 73rd kilometre of the Moscow-Minsk Highway was selected for the Olympic 100-km team trial.

A section from the 19th to 23rd kilometre was used for warming up. Sectional metal bleachers with 1,800 seats were installed at the start-finishing line, with sections reserved for VIPs and officials. Temporary shelters for communications services, television, for competitors' and spectators' services were located close to the stands.

After the team trial on the first day of the Games, the bleachers and other structures were dismantled and installed at the cycling circuit in Krylatskoye.

# Trade Unions' Equestrian Complex
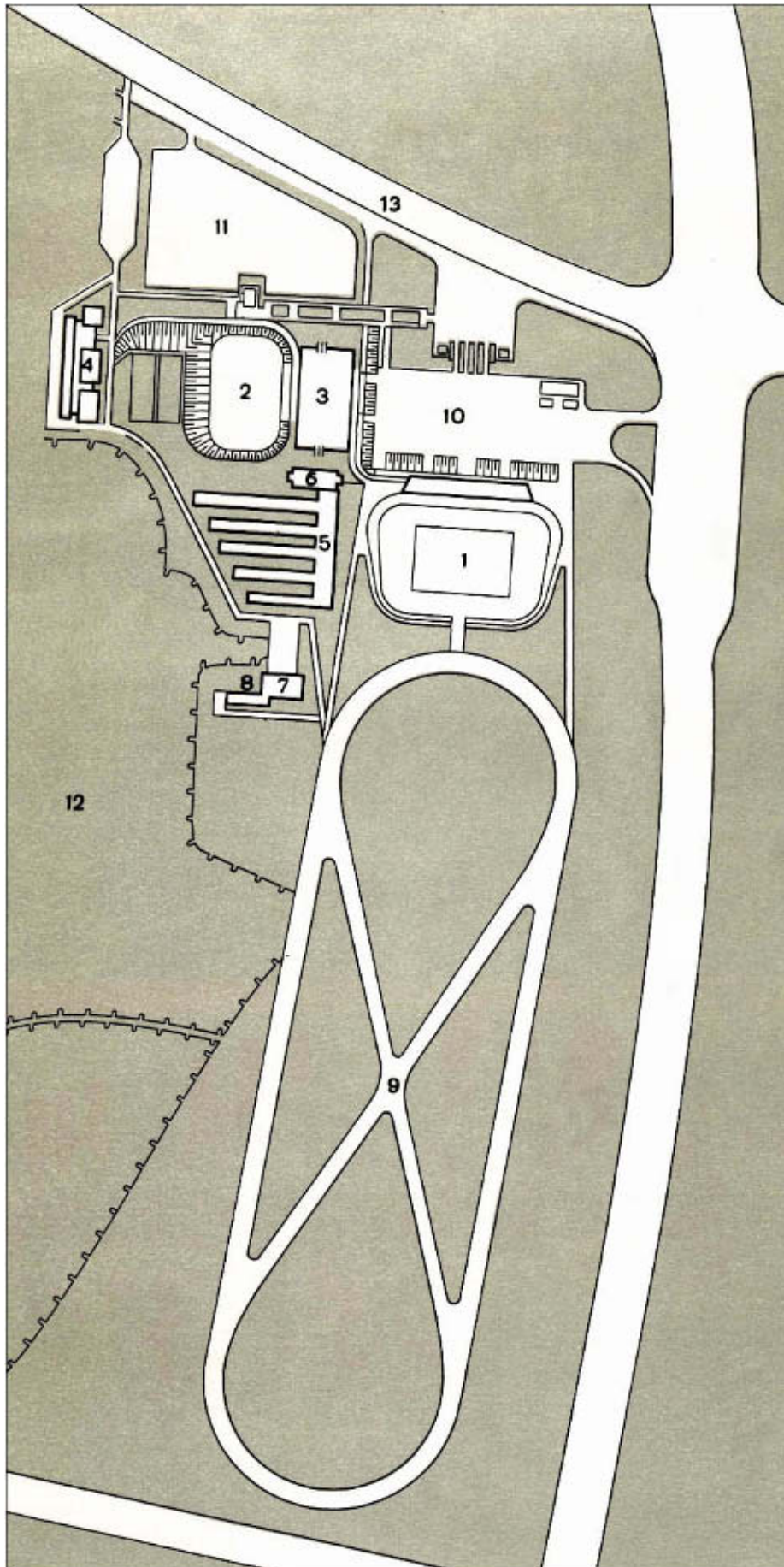
**Trade Union Equestrian Centre
General Layout**
 1. Stadium for jumping
 2. Stadium for dressage
 3. Indoor manège
 4. Hotel and sports complex
 5. Stables
 6. Interior manège arena
 7. Veterinary hospital
 8. Service area
 9. Steeplechase course and
    training fields
10. Main square
11. Car parking lot
12. Bitsa Woodland Park
13. Balaklava Avenue
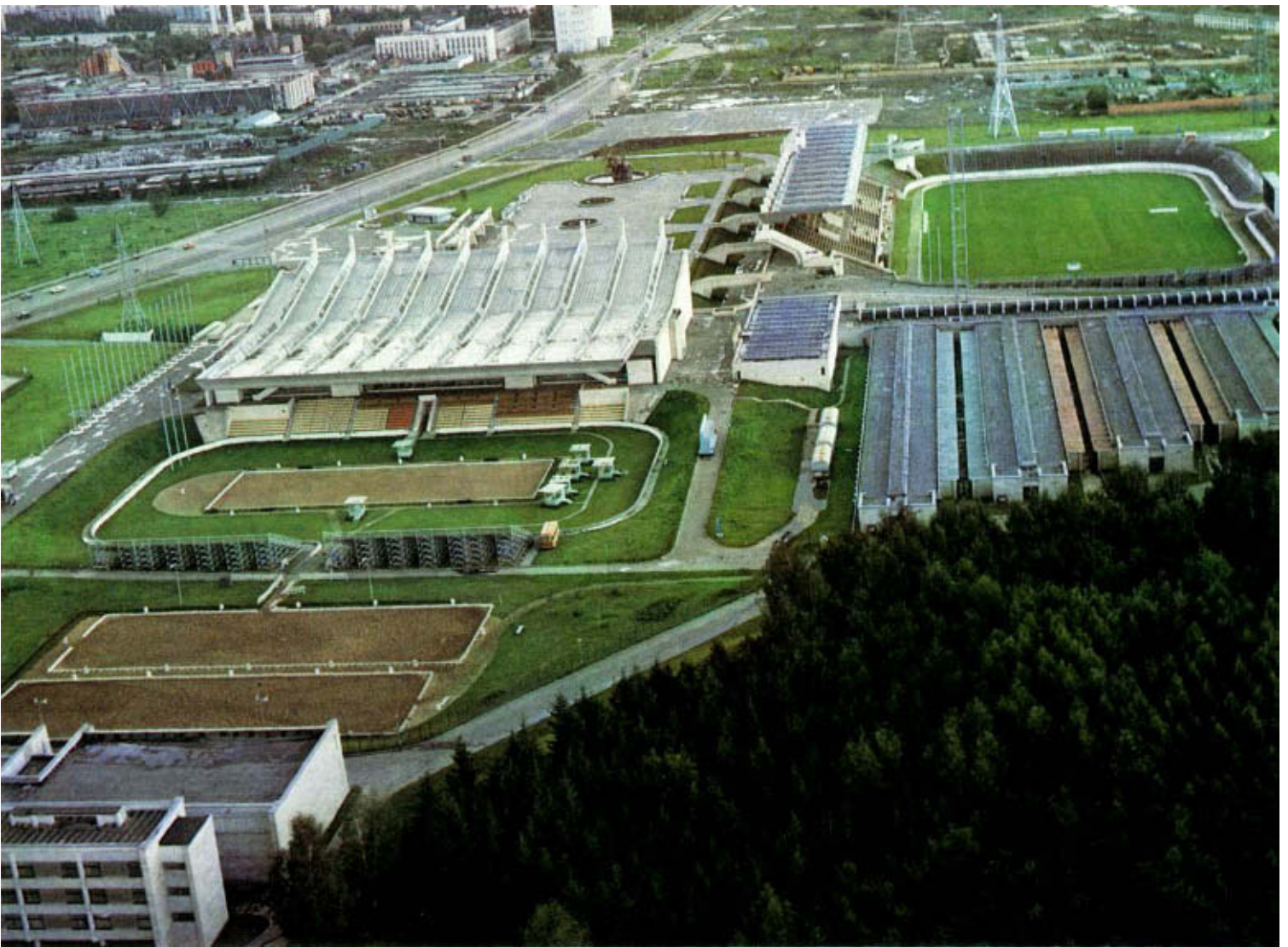
The Equestrian Complex was built for the Games on the fringe of the Bitza Woodland Park, covering an area of 45 hectares. A square in front of the main entrance to the complex adjoins Balaklava Avenue. Public transport lines running along the Avenue connect Bitza Park with the Kaluzhskaya and Varshavskaya metro stations, and another metro station, Kakhovskaya, is located not far away. The arenas of the Equestrian Complex and courses in the woodland park were the site of Olympic equestrian and modern pentathlon (riding and cross-country running) events.

In planning the area of the complex, allowance was made for the specific character of equestrian sports which require, on the one hand, that the stables, veterinary station, and utility area be as far from the spectators as possible and, on the other hand, that optimum provisions be made for competitions. Thus, the Equestrian Complex was divided into three zones: the competition site, training site, and service and utility area.

Installations at the **competition site** include:

— *a stadium for jumping* — a jumping area with an arena of 150x100 m and stands with 12,000 seats, including



**The Trade Unions' Equestrian Complex in Bitsa. General view**

stationary stands (sheltered by an overhang) accommodating 5,000 spectators, sections for VIPs, officials, members of the IFs, judges, competitors, coaches, and the media were set aside on the stands. Commentator booths equipped with special communications and information facilities

were installed. The stadium has a scoreboard. A VIP lounge with a bar and services, a press subcentre, technical officials' quarters, the secretariat rooms, the jury of appeal office, a copier and teleprinter area, and a conference hall with a film projector were located under the stands;

— *a steeplechase course,* 1,650 m long and 20 m wide (for endurance tests). Six training areas, each measuring 90 by 60 metres, and six dressage training areas were laid out inside the circular steeplechase course;

— *a stadium for dressage,* 60x20 m, with stands accommodating

**Stadium for jumping**

**The main stands under construction**

**Cross Section**
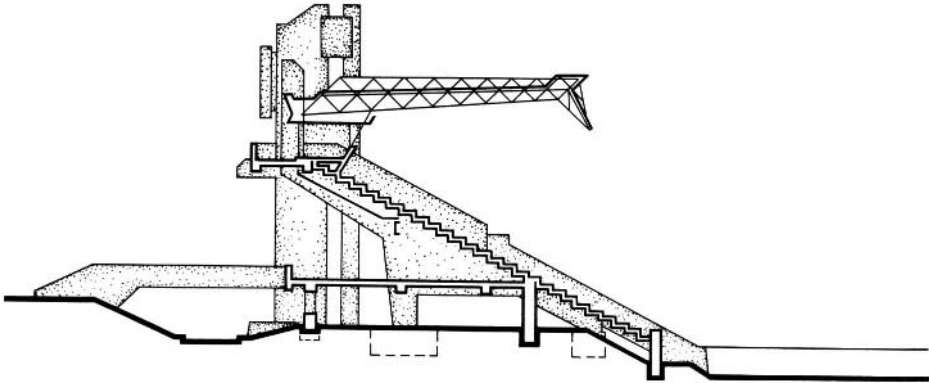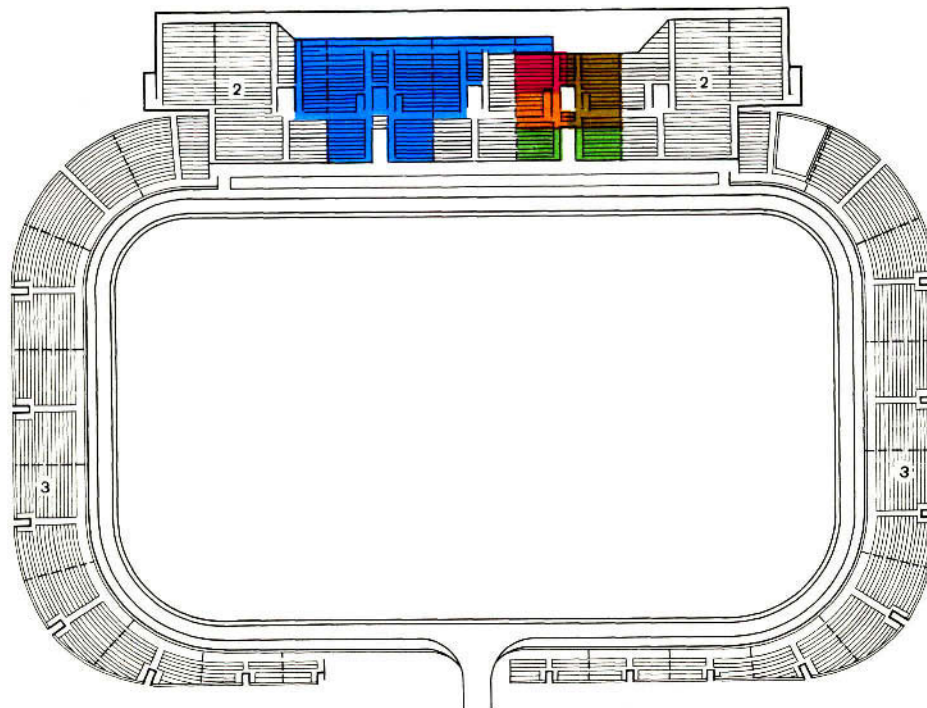
**Jumping area and the main stands**

**Stadium for Jumping Stands Plan**
1. Jumping field
2. Permanent stands
3. Temporary stands

■ Officials' stands (categories A, B, C, G)

■

■

■

■ Seats for jury members and technical officials (D category)

■ Seats for national team members (F category)

■ Seats for the media (E category)

**Stadium for dressage**

**Stadium for Dressage and Indoor Manège**
**Plan of the Arenas and Stands**
1. Dressage field
2. Indoor manège
3. Permanent stands
4. Removable stands
5. Stands in indoor manège
   ■ Officials' stands
   (categories A, B, C, G)

   ■

   ■

   ■

   ■ Seats for jury members
   and technical officials (D
   category)

   ■ Seats for national team
   members (F category)

   ■ Seats for the media (E
   category)
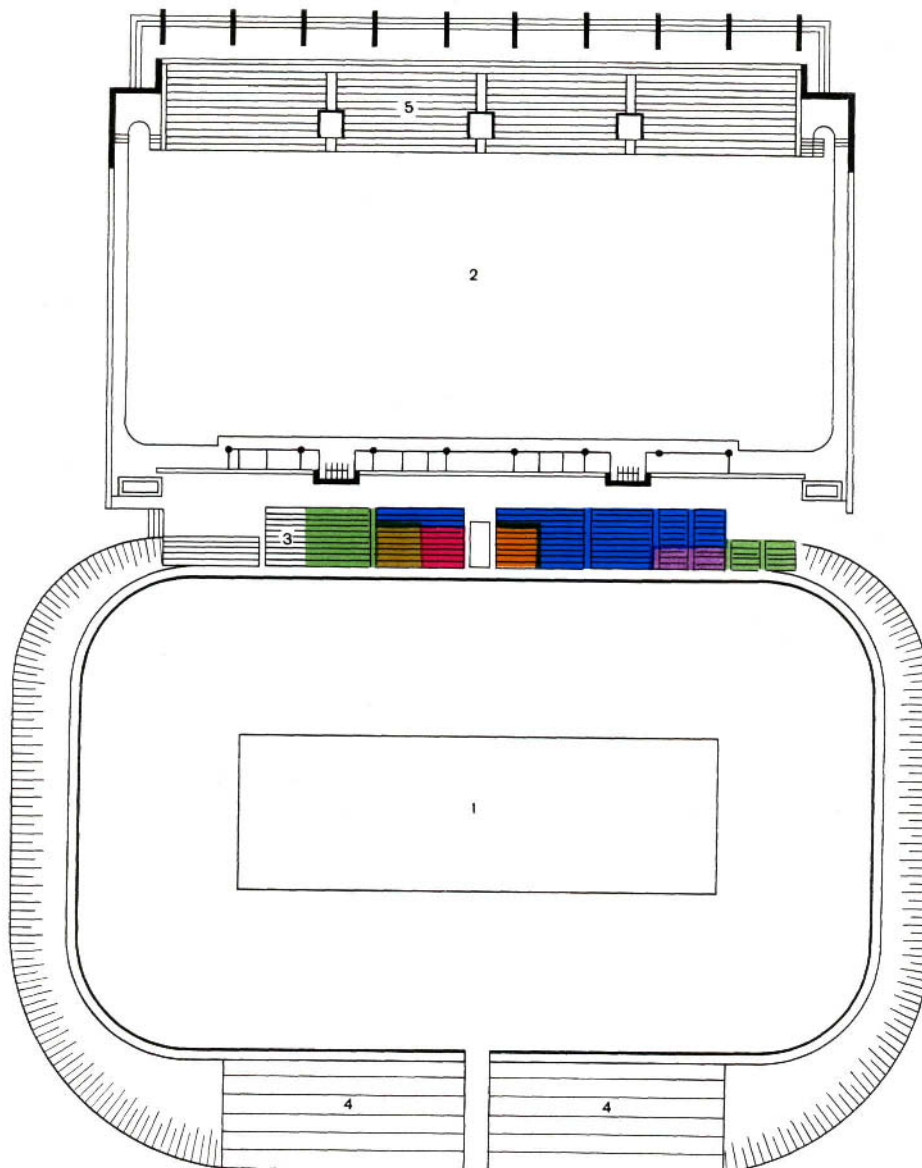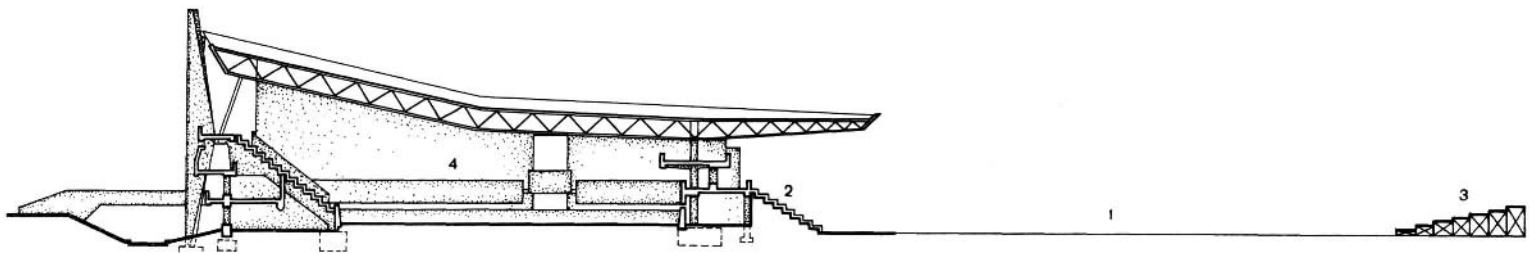
3,000 spectators (2,000 seats were installed for the period of the Games only);

— *an indoor Arena* with a 90x38 m field and stands for 2,000 spectators;

— *courses for an equestrian cross-country run* over a distance of 7,695 metres and for a *cross-country run,* one of the modern *pentathlon* events, in the Bitza Park. Thirty-six obstacles were erected for the equestrian cross-country run, each fenced with a safety net. Temporary stands with 400 spectator seats were installed at the start and finishing lines of the cross-country courses in the Lysaya Hill area and a scoreboard was placed nearby. Tents for officials, jury of appeal, veterinary, and doping control stations were located there.

The **training site** includes a gym, 30x18 m, a 25x13 m swimming pool and a 25 m shooting range. All these installations were integrated into one unit with a common lobby, cloak

room, café, and rest area. A hotel accommodating 150 people with a café for 100 seats and snack bars, which was an Olympic Village extension during the Games, is also located there.

There is a veterinary hospital, stables, a storage area for fodder and other utility rooms in the **service and utility area.** The stable complex consists of five units with stalls for a total of 240 horses. The units were planned so that the free space between them could house additional summer stalls for 200 horses during the Games. Each unit has two exits: one serves for bringing fodder and taking out waste and the other leads to an interior 60x20 m arena that connects the stables with the indoor hall. A separate road was laid along the fringe of the forest specially for transportation to and from the service and utility area.

Following the Games, the Equestrian Complex is being used for train-

**Stadium for Dressage and Indoor Manège**
**Cross Section**
1. Dressage field
2. Permanent stands
3. Temporary stands
4. Indoor manège

**Façade of the indoor arena**
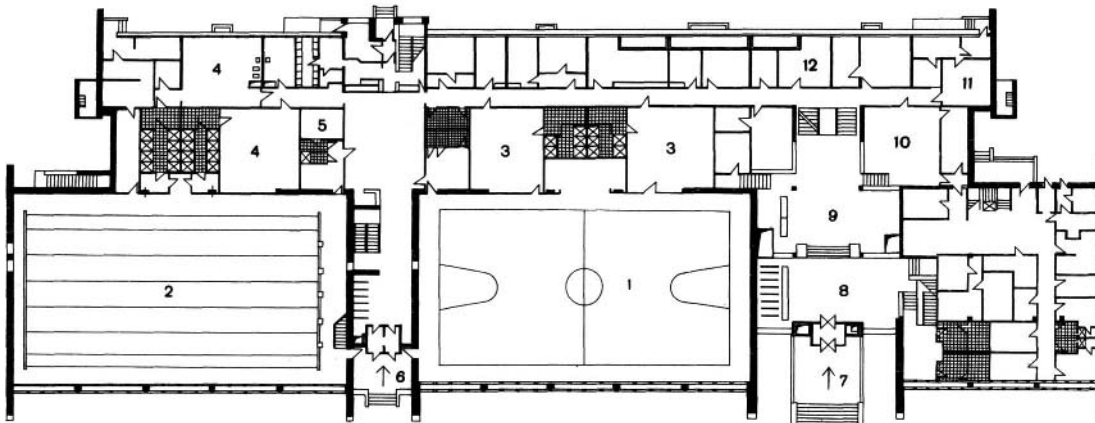
**Equestrian Complex
Plan of the Hotel's Training
Area**
 1. Gym
 2. Swimming pool
 3. Dressing rooms for the gym
 4. Dressing rooms for the
    swimming pool
 5. Sauna
 6. Access to sports area
 7. Entrance to the hotel
 8. Lobby
 9. Lounge
10. Bar
11. First-aid station
12. Office and service rooms

ing by the Children's and Youth School of the Trade Union Sports Societies. Its competition site hosts national and international equestrian sports events.

The Equestrian Complex was constructed according to a design drawn up by Workshop 2 of the Department for Design of Model Future Residential Areas.
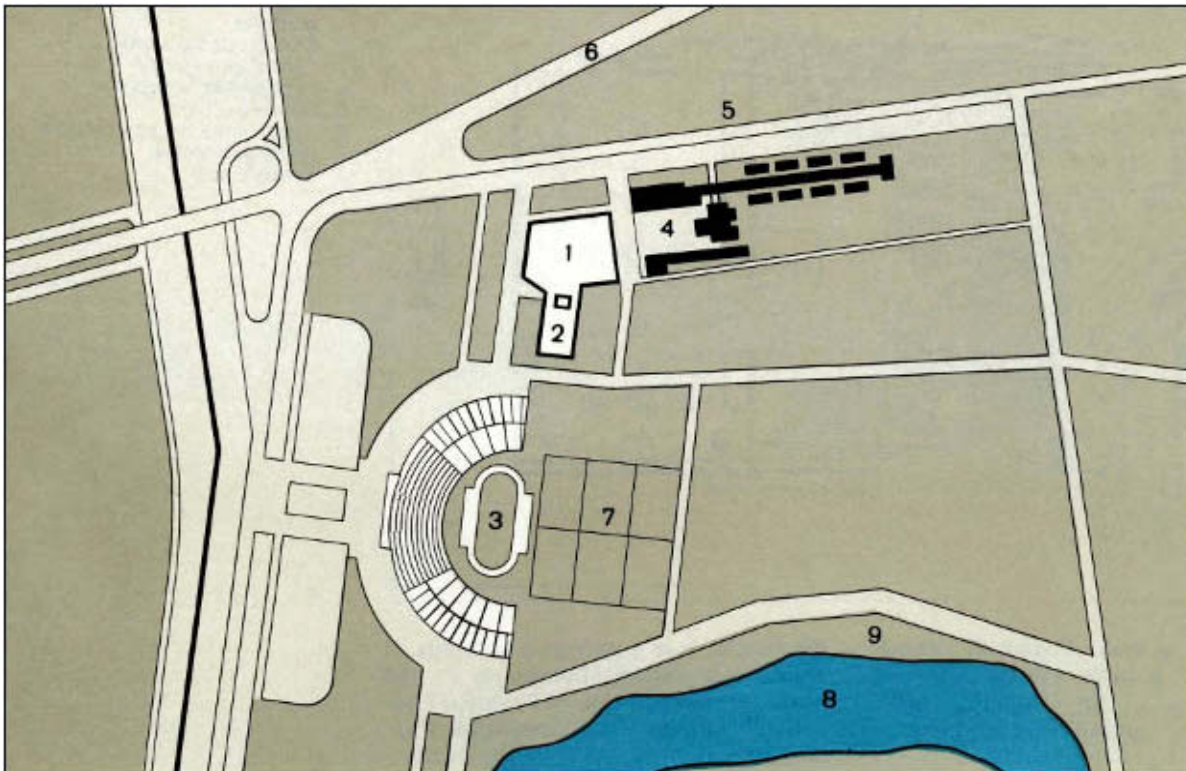
The SCIPE sports complex in
Izmailovo. General view

**Izmailovo Sports Palace
General Layout**
1. Sports Palace
2. Indoor swimming pool
3. Stadium
4. State Central Institute of
   Physical Education (SCIPE)
5. Sirenevyi Boulevard
6. Shchelkovo Highway
7. Training football fields
8. Sirenevo-Vinogradny Pond
9. Beach
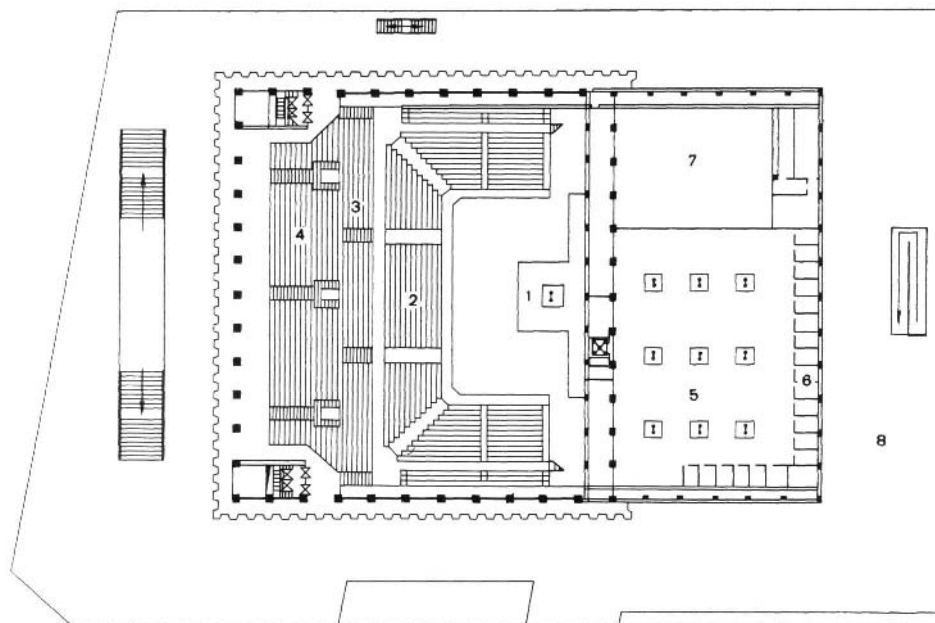
**Izmailovo Sports Palace**
1. Stage with weightlifting platform
2. Dismountable seats
3. Permanent stands
4. Second-tier bleachers
5. Warm-up hall
6. Rest rooms for competitors
7. Press subcentre
8. Podium roof

Izmailovo and Sokolniki Sports Palaces were made available in this planning zone for Olympic competitions in weightlifting and handball.

The Izmailovo Sports Palace was constructed for the Games near the Izmailovo Park at the crossing of Shchelkovo Highway and Sirenevyi Boulevard. It is a part of a complex of sports installations belonging to the State Central Institute of Physical Education (SCIPE). The Izmailovo Park Metro Station and the Izmailovo hotel complex, the largest in Moscow are located in the vicinity. The Palace hosted weightlifting competitions during the Olympic Games.
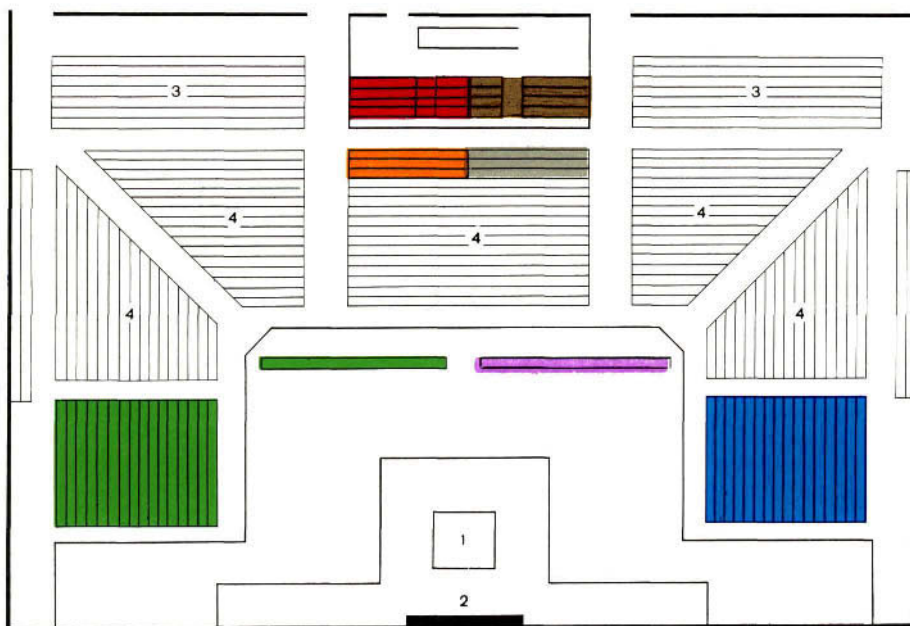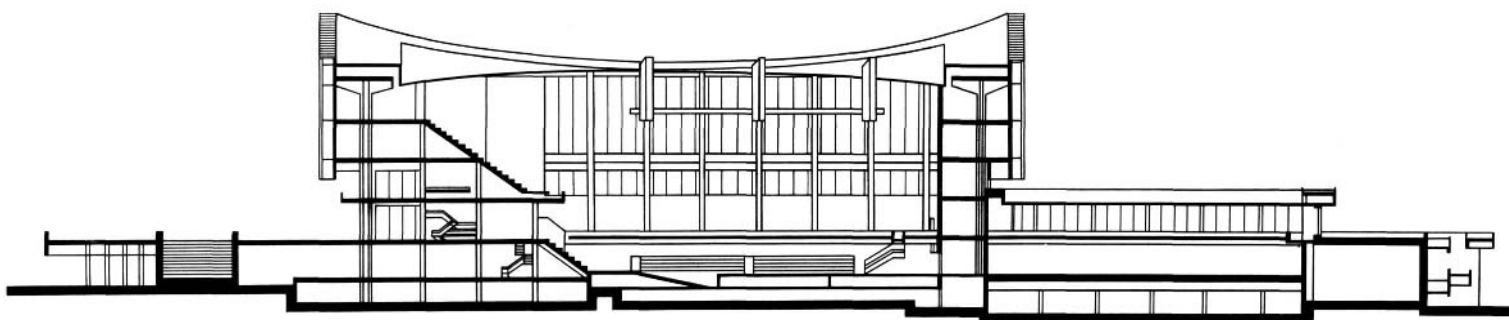
**Izmailovo Sports Palace
Longitudinal Section
Stands Plan**
1. Weightlifting platform
2. Scoreboard
3. Permanent stands
4. Removable seats

Officials' stands
(categories A, B, C, G)

Seats for jury members
and technical officials (D
category)

Seats for national team
members (F category)

Seats for observer
missions of organising
committees for future
Olympic Games (N
category)

Seats for the media (E
category)

A swimming pool for the SCIPE was constructed on a common stylobate with the Palace of Sports. The main entrance gives access to the Palace at the level of a terrace on the stylobate roof.

The competition and training halls occupy the bigger part of the new building. The competition hall measures 72 by 66 metres and is 15 m high. A dismountable stage, 35x25 m and 1 m high, was installed in the arena for the Olympic events. A weightlifting platform measuring 4x4 m was put up in the middle of the stage. A scoreboard was placed behind the platform. Jury members, officials of the International Weightlifting Federation (IWF), the secretariat and chefs-de-mission were seated on three sides of the stage.

Stationary and temporary stands were erected in the competition hall of the Palace with a total capacity of 5,000 seats. Sections for VIPs, members of the press, television, and competitors were reserved there.

A 36x36 m training hall is located at the same level as the floor of the competition hall. It was occupied by 9 platforms, each 3x3 m in size, and 18 rest cabins for competitors. The quarters for judges and coaches, a first-aid station, a press subcentre and other services were also installed there. Cloak rooms, snack bars, and wash-rooms for spectators are located in the lobby at the level of the first tier of the stands and in spacious lounges on the second tier. Having seen the competition site for weight lifters, the IWF President Gottfried Schödl said, "This is a model design and construction of sports installations."

Among the novelties applied in the design and construction of the Sports Palace, the most noteworthy is the large-span cover of the competition hall. It is a membrane of 2 mm stainless steel supported by two diagonal steel strips. The 280-ton structure was completely assembled on the ground and then raised to design elevation by power hoists and attached in the corners to a reinforced concrete ring resting on 48 reinforced concrete columns. A similar roof, but smaller in size, was erected over the training hall, which is adjacent to the competition hall.

The Sports Palace is being used after the Games by the SCIPE for

**113**

training. The halls of the Palace have been reconstructed: the stage, platforms, temporary stands, and partitions of the subcentre were dismantled and additional gyms installed for team sports instead.

The Palace was designed by the Soiuzsportproekt Institute.

The Sokolniki Sports Palace is situated in the recreational park of the same name. Originally, this area was occupied by an open skating rink which was roofed in 1973 and turned into an ice Palace of Sports covering an area of 113x80 metres.

The Sokolniki Sports Palace was prepared for the Games to host handball events. To this end, the building was reconstructed. The stands accommodating 6,800 spectators and the space under the stands were replanned. Seats for VIPs, officials, judges, broadcast commentators and members of the press were installed. A five-storey building with services for VIPs and technical officials was constructed as a wing of the Palace. It also housed a press subcentre and equipment rooms. Besides, a new training hall was erected. The hall was connected with the main competition hall by an underground tunnel.

The Palace of Sports now has a competition hall 16 m high with a 65 by 36 metres arena covered with a synthetic carpet. Two scoreboards were installed in the hall.

In the new training hall, 10 m high, there is a site of 107 by 39 metres where two handball playing fields,





**Façade of the Sports Palace from the main entrance**

**Izmailovo Sports Palace**

**Inner yard between the Sports Palace and SCIPE swimming pool**

**Sokolniki Sports Palace. Façade from the main entrance**
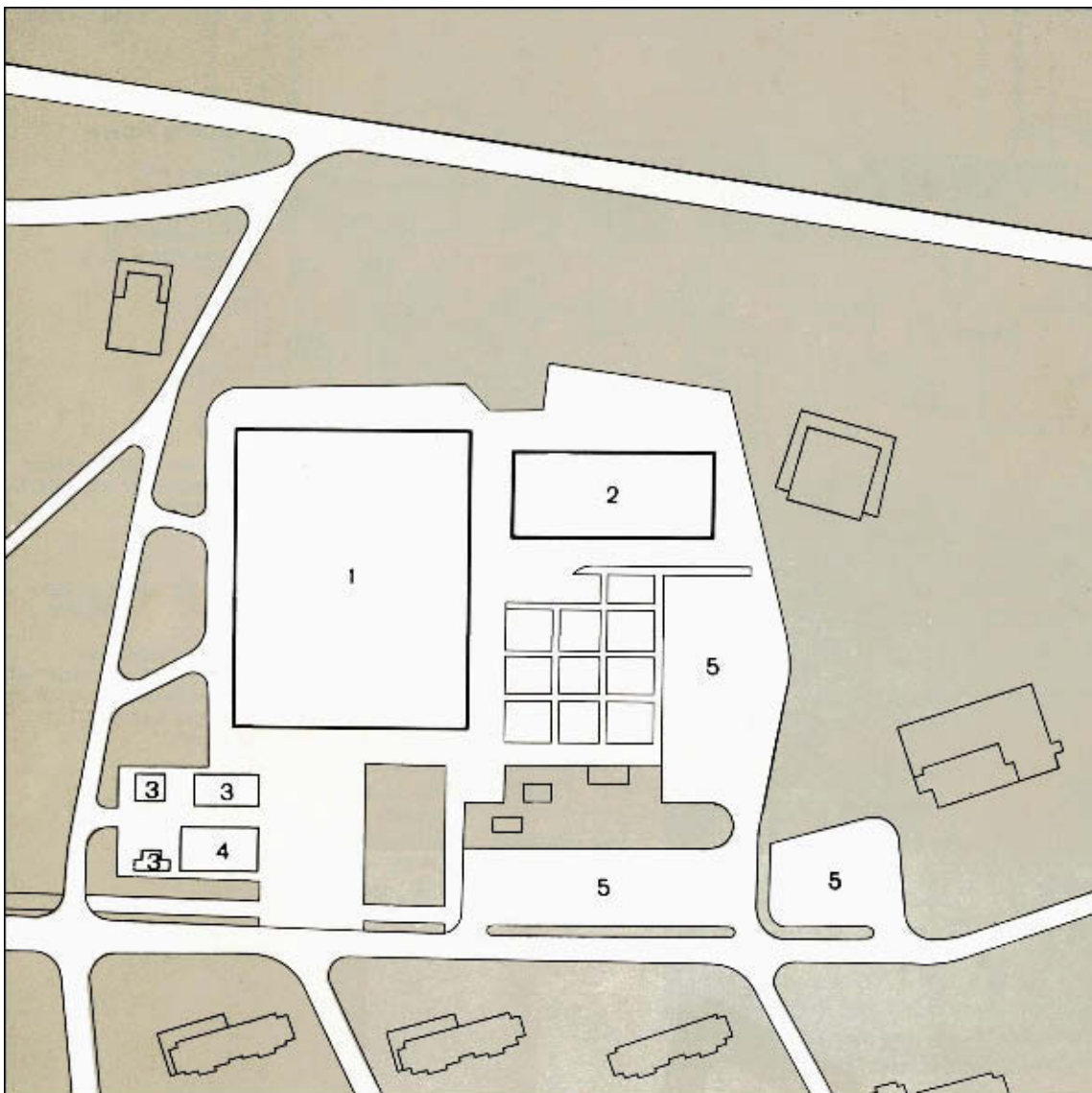
**General Layout**
1. Sports Palace
2. Training hall
3. Utility buildings
4. Refrigeration plant
5. Parking lots
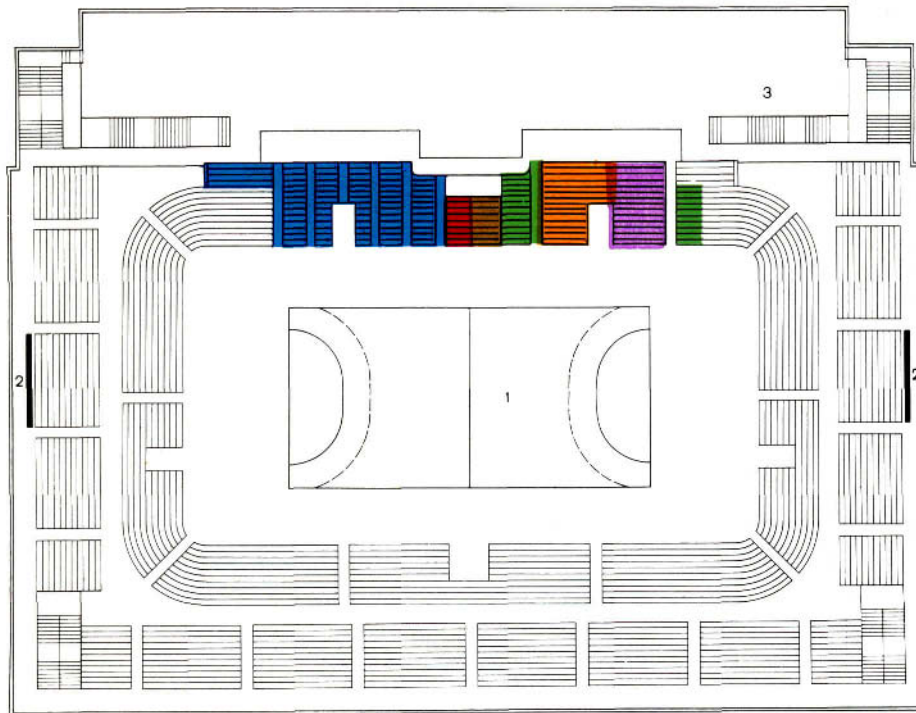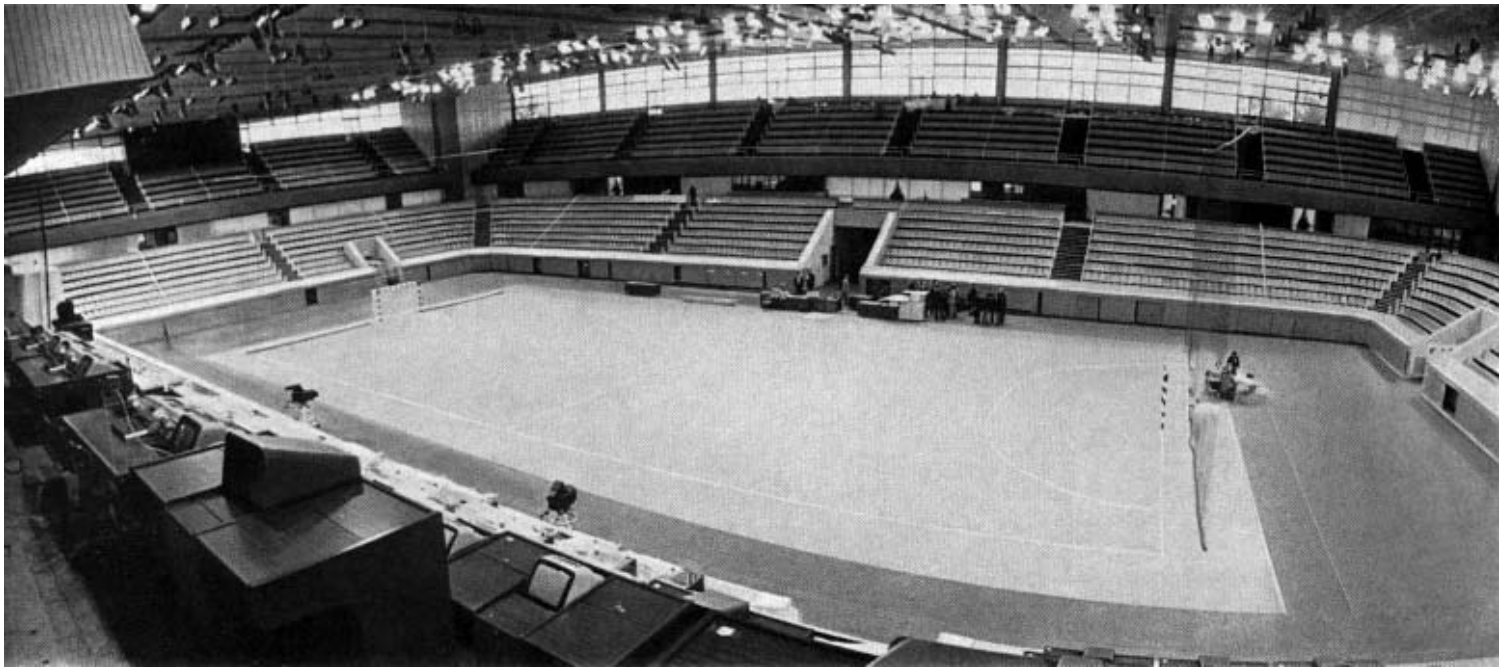
Interior of the competition hall

**Sokolniki Sports Palace Stands Plan**
1. Competition arena
2. Scoreboard
3. Roof of 4-storey wing

<span style="color:red">■</span> Officials' stands (categories A, B, C, G)

<span style="color:brown">■</span>

<span style="color:green">■</span>

<span style="color:orange">■</span>

<span style="color:purple">■</span> Seats for jury members and technical officials (D category)

<span style="color:green">■</span> Seats for national team members (F category)

<span style="color:gray">■</span> Seats for observer missions of organising committees for future Olympic Games (N category)

<span style="color:blue">■</span> Seats for the media (E category)

116
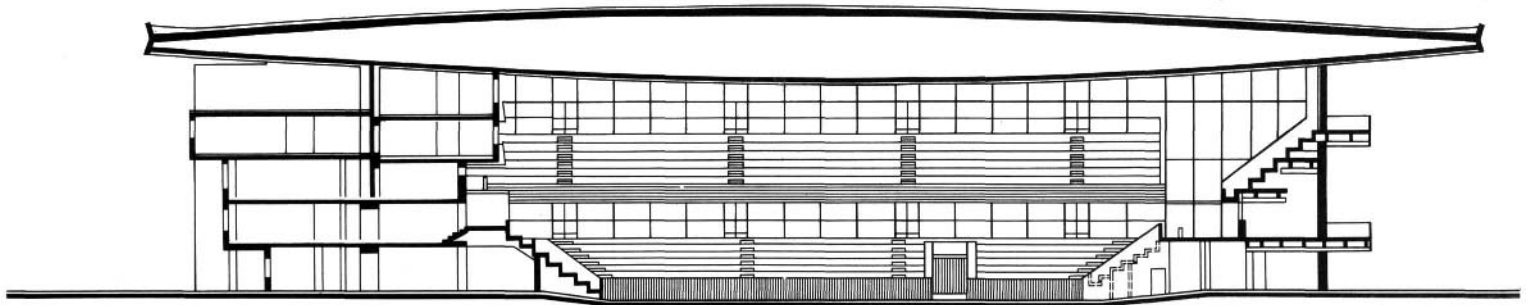
**Sokolniki Sports Palace
Cross Section**
1. Competition arena
2. Four-storey wing
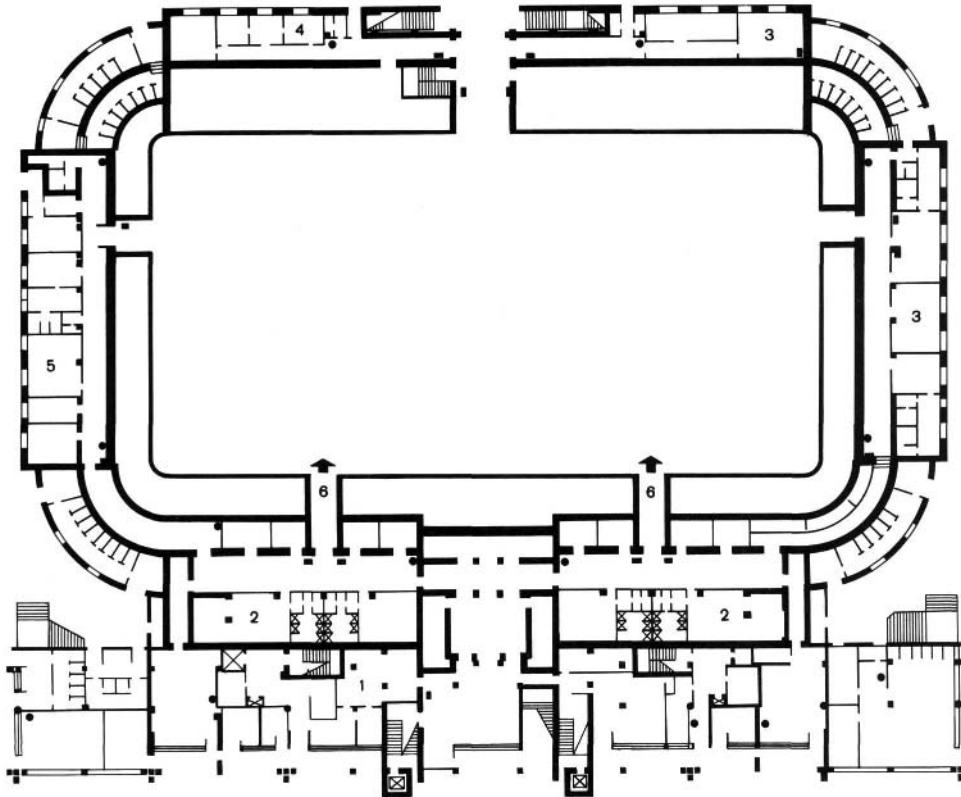
**Sokolniki Sports Palace
Ground Floor Plan**
1. VIP area
2. Dressing rooms for
   competitors
3. Technical officials' quarters
4. Office
5. Medical service area
6. Exit of competitors onto arena

**Builders of the Moscow Olympic
facilities**

separated with a rope net, were laid out for the Games. Two locker rooms for competitors were installed at each end of the hall. Beneath the locker rooms saunas and technical areas are located.

Once the Games were over, the Palace of Sports was handed over to the Specialised Children's and Youth School for Ice Hockey and Figure Skating of Spartak Sports Club. Its main hall is used as a multipurpose arena for sports competitions and public cultural events.

The reconstruction project was drawn up by Workshop 7 of the Mosproekt-1 Department.

# Dynamo Shooting Range in Mytishchi
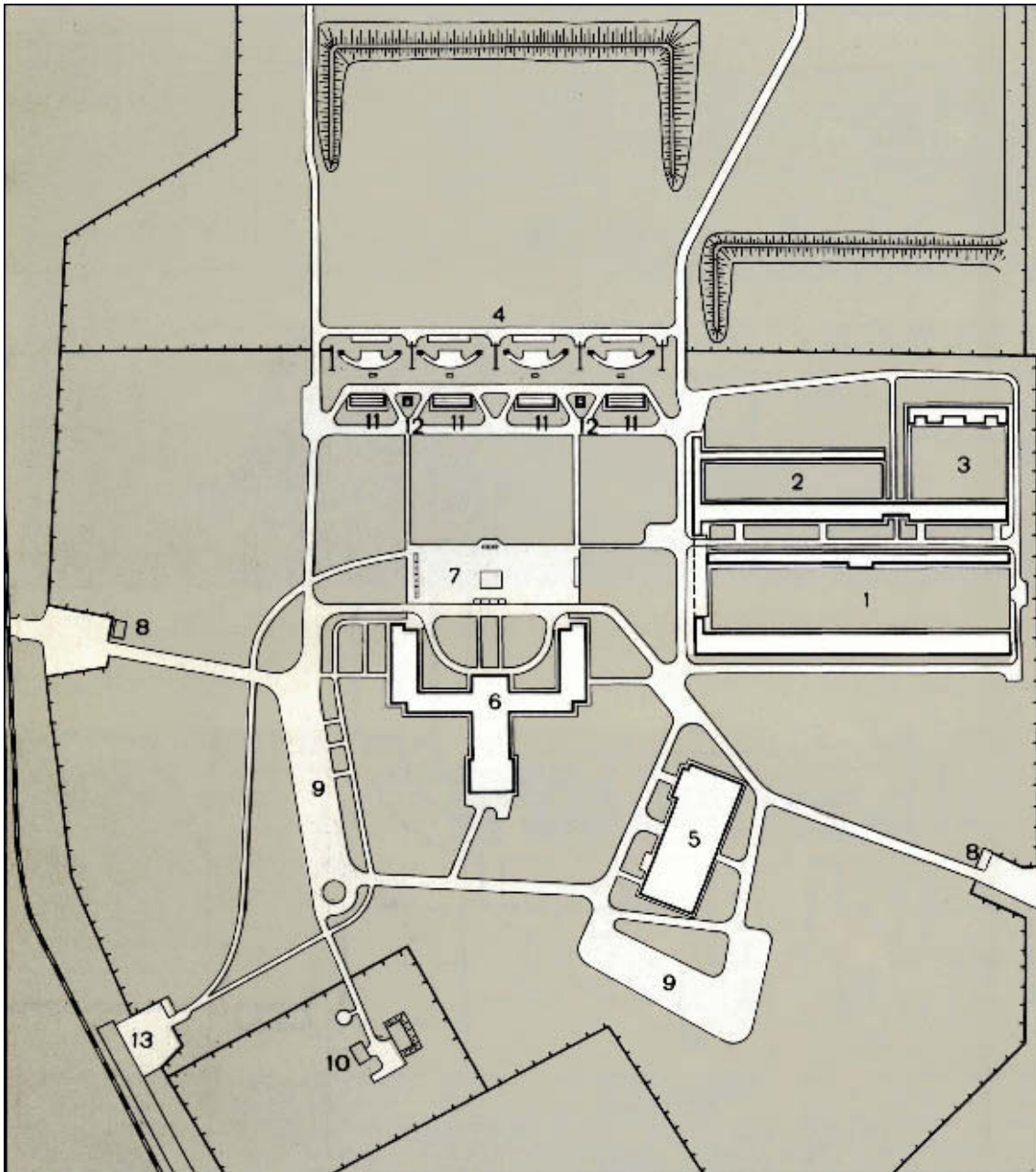
**General Layout**
1. 50-m range
2. 25-m range
3. 50-m running-boar range
4. Clay-pigeon range
5. Utility building
6. Main building
7. Square
8. Checkpoints
9. Parking lots
10. Water-supply plant
11. Sectional bleachers
12. Pavilions of clay-pigeon range
13. Dynamo Railway Station

The Dynamo Shooting Range was built in 1957. It covers an area of 34 hectares. It was renovated during the preparations for the Games of the XXII Olympiad and its technical equipment was considerably modernised to meet the requirements of the International Shooting Union (UIT).

The renovations to the shooting range were completed in 1979 for the finals of the VII USSR Summer Spartakiade. The range hosted shooting competitions. It includes the following facilities:

— *a 50-m gallery* with 90 shooting stations and 1,150 spectator seats;

— *a 25-m gallery* with 16 shooting stations, including two stations in the sighting area, and 550 spectator seats;

— *a 50-m gallery* with 3 running-boar targets and 330 spectator seats;

— *four clay-pigeon ranges* with sectional bleachers, for 300 seats each, located near each range;

— *the main building* with competitors', VIPs', judges' and technical officials' quarters, a press subcentre, a first-aid station, and a post office;

— *a service building* with storage areas for weapons and a weapon repair shop;

— *technical buildings:* a boiler, a transformer substation, and a water tower.

Great stress was laid on modernisation of equipment as part of the renovation project. New targets, scorekeeping devices, and a mobile scoreboard were installed.
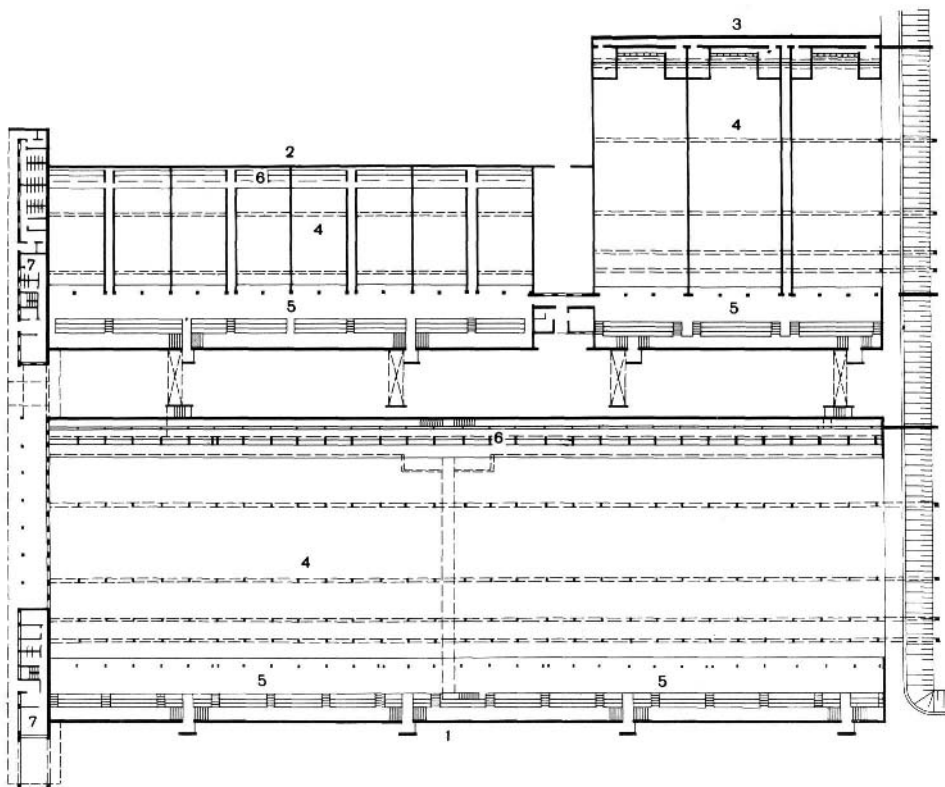
**Dynamo Shooting Range in Mytishchi. Shooting galleries**

**Complex of Ranges**
**Plan**
1. 50-m range
2. 25-m range
3. 50-m running-boar range
4. Shooting galleries
5. Spectators' stands
6. Recessed shelters
7. Toilets
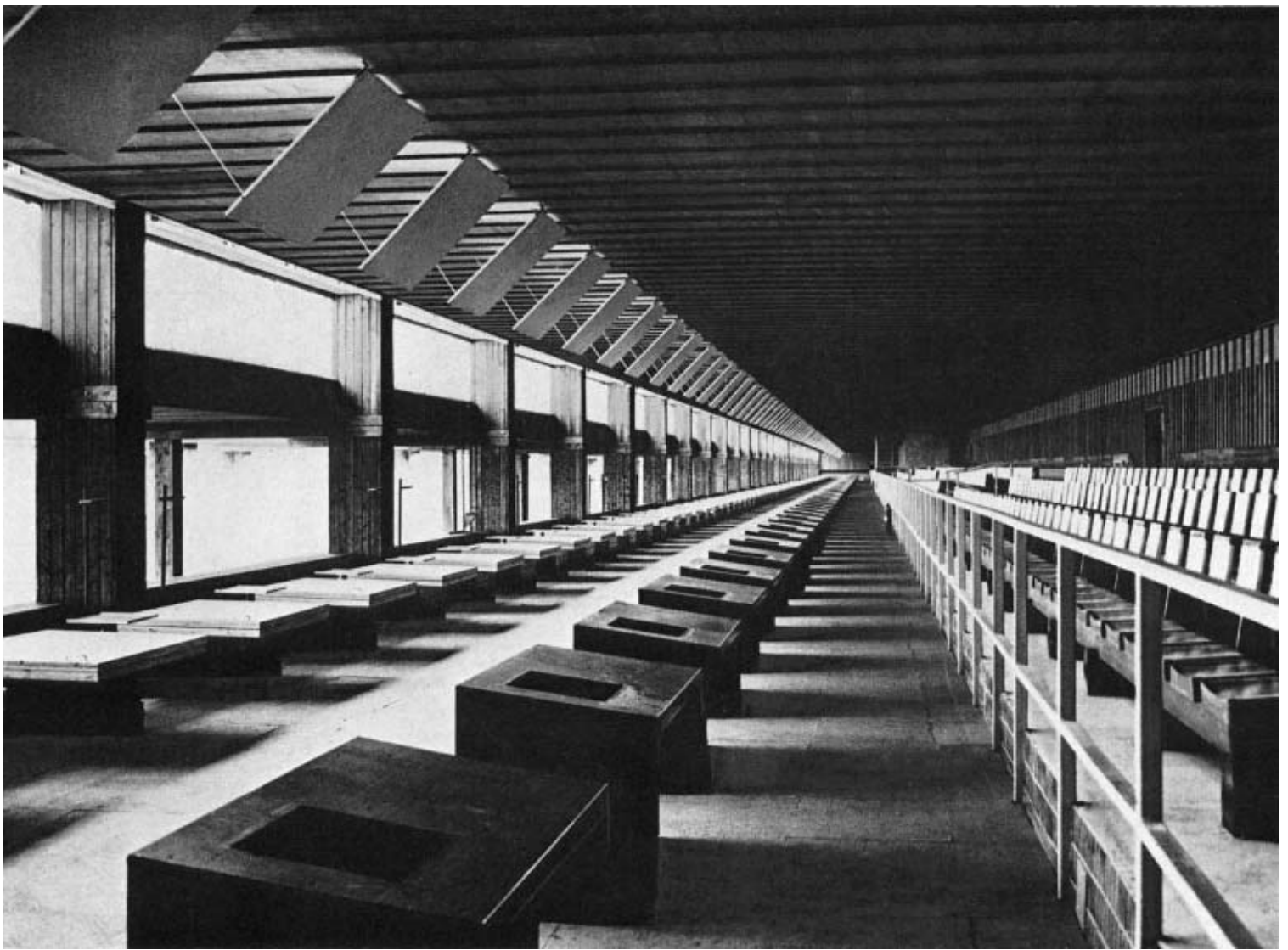
Close attention was given to soundproofing the shooting galleries. As recommended by the Research Institute of Structural Physics, suspended ceilings were fitted in the galleries and their walls were covered with aluminium mesh laid on mineral-wool plates which were sealed with polyethylene film.

Open space around the range provided room for necessary safety zones in the vicinity of the galleries and the clay-pigeon ranges. The target line of the 50 m gallery had a recessed shelter connected with the gallery by an underground passage. Four isolated

Interior of a shooting gallery

Clay-pigeon shooting
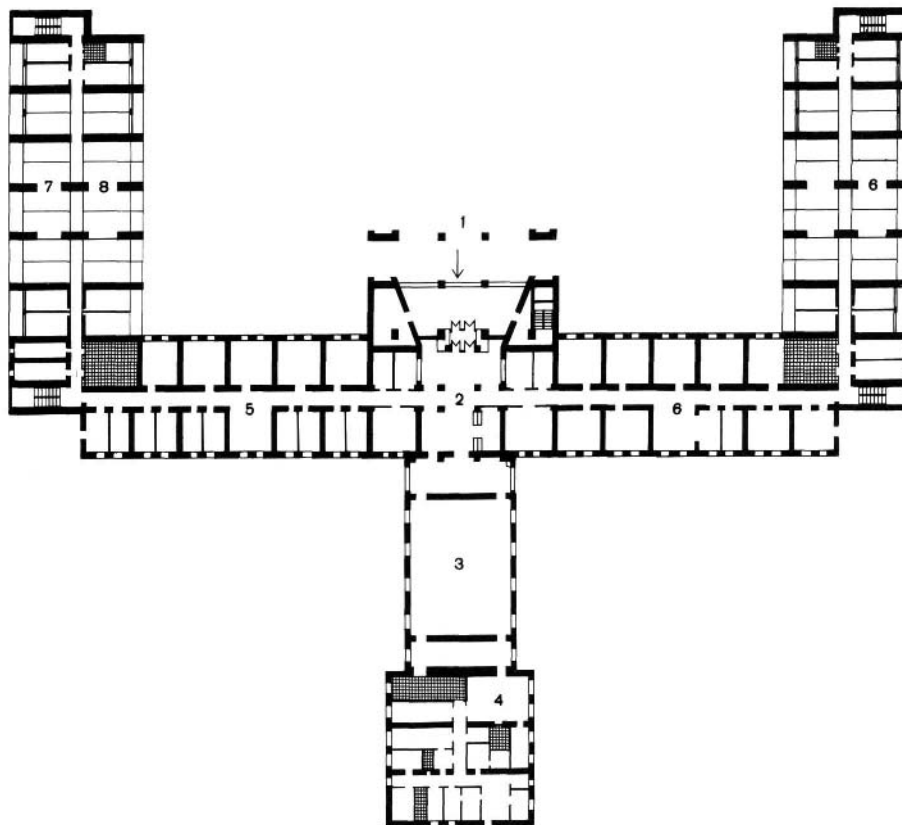
Main building of the Shooting Range

**Main Building
Ground Floor Plan**
1. Main entrance
2. Lobby
3. Cafeteria
4. Cafeteria service rooms
5. Press quarters
6. Range officers' quarters
7. First-aid and doping-control stations
8. Office

passages for range officers from the gallery to the target line were provided for the 25 m gallery.

The three 50 m running-boar ranges are integrated into one complex where the gallery is connected with the target line by means of an isolated passage. All the galleries are equipped with bullet catching devices and protective visors to ensure shooting safety.

The new structures were well integrated into the architectural layout of the shooting range, which had been designed as an aggregate of hunters' chalets scattered in the woods.

Following the Olympic Games, the range is being used for national and international shooting events and for the training of marksmen.

The UIT President Olegario Vázques-Raña said the following about the sports complex in Mytishchi: "An excellent range has been built here, one of the world's best."

# Venues of the Olympic Football Tournament

The Olympic football matches were staged in Moscow, Leningrad, Kiev, and Minsk. To this end, in addition to the Lenin Central Stadium and Dynamo Stadium in Moscow, the Kirov Stadium in Leningrad, the Republican Stadium in Kiev, and the Dynamo Stadium in Minsk had been prepared. They were renovated for the Games. The equipment of the installations was modernised to meet the recommendations and regulations of the Fédération internationale de football associations (FIFA) and to ensure their effective use in the post-Olympic period. The renovation made the competitors and spectators, as well as officials and the media, much more comfortable. The stadia were equipped with the latest communications facilities. Their architectural appearance was preserved.

## Kirov Stadium in Leningrad

The stadium was built in 1950 on Krestovsky Island in Leningrad in the area of the Seaside Victory Park.

The stadium arena consists of a playing field measuring 105x68 metres, a 400 m running track with a synthetic surfacing, and areas for jumping and throwing. Stands with a seating capacity of 72,000 were installed on earth embankments around the arena.

The stadium premises also include two football training pitches, an area for throwing, grounds for vehicle driving contests and carting competitions, volleyball and basketball courts, a rowing basin 1.5 km long, the Neva Ring Circuit for cycling and car races, and a skiing lodge with an illuminated route for Nordic skiing.

The earth embankment surrounding the arena houses four pavilions with locker rooms and showers for competitors, a hotel and other services.

The stadium had been renovated by the start of the Olympic Games. The stands were repaired and spectator seats replaced. Precautions were taken against settling of the soil under the stands. The interior slope of the embankment was lined with reinforced concrete.

The central box on the western stands was replanned to hold seats reserved for VIPs, officials, chefs-de-mission, and technical officials. Press stands were located on both sides of that section and six permanent commentator booths and control posts for scoreboards were installed there. Temporary commentator positions were adjacent to the booths and were sheltered from the weather by a protective awning.

The arena was illuminated by blocks of powerful lighting projectors mounted on four towers to ensure high-quality color telecasts.

The pavilions containing services were also replanned.

Pavilion 1, on the first and second floors, housed a press subcentre. The medical centre was located on the ground floor.

New locker rooms, including a cloak room, washing rooms with a swimming pool, a sauna, and a massage room were installed on the first and ground floors of Pavilion 2. Two gyms each measuring 150 sq m are located on the second floor.

Pavilion 3 featured scorekeeping and information system control posts, a café, and engineering services. In pavilion 4 there was a VIP lounge on the ground floor. The stadium administration offices are located on the first floor.

A new main entrance was made from the Seaside Avenue alley. There were two ticket offices there, each with 12 booths.

The renovation project was designed by the Leningrad Research and Design Institute.

## Republican Stadium in Kiev

The Republican Stadium, with stands for 100,000 spectators, is situated in the centre of Kiev within a block formed by the Krasnoarmeiskaya, Shota Rustaveli, Kuibyshev, Dimitrov, and Gospitalnaya streets. The stadium is served by many buses and trolley-buses and there is a metro station in Krasnoarmeiskaya Street.

The stadium is laid out on a steep slope, which makes it an interesting landscape feature. Entrances for spectators are on three sides—from Krasnoarmeiskaya, Shota Rustaveli, and Kuibyshev streets.

The competition arena of the stadium includes the 105x68 m football playing field, a 400 m track, and areas for jumping and throwing. Adjacent to the main arena are also indoor tennis courts, a training skating rink, grounds for team sports, and a training ski-jump.

The stadium was renovated in 1979 for the Olympic football tournament. Public passages were widened, additional staircases and exits built.

The surface of the playing field in the arena was improved, a drainage system and rain gutters were installed. The track and the areas for jumping and throwing were surfaced with a synthetic material.

A new three-storey building was constructed near the stands to house services and a conference hall with 225 seats.

The stands on the second tier were reconstructed and replanned to accommodate sections for VIPs, officials, a press subcentre, positions for the media, and ten permanent commentator booths. Additional locker rooms with showers for football players were built as part of the existing sports pavilion. Quarters for the press were also located there during the Olympic competitions.

Two football training pitches coupled with a pavilion housing a 36x18 m gym, a 18x12 m weightlifting hall and snack bars were laid out at the stadium for the Games. A functional diagnosis building for athletes, containing four swimming pools and essential services, was also constructed.

Four 73 m towers holding blocks of powerful lighting projectors were erected to illuminate the arena and satisfy the needs of colour television.

The renovation project for the stadium in Kiev was conceived by the Kiev Regional Research and Design Institute of Standard and Experimental Designing of Residential and Public Buildings.

## Dynamo Stadium in Minsk

The Dynamo Stadium with a seating capacity of 36,000 was built in 1934. It was destroyed during the war and built again in 1954, with the capacity of the stands increased to 42,000 seats.

The stadium is situated in the centre of the city near its main artery—Lenin Avenue. The stadium area, a park portion included, is 12 hectares. The football playing field of 105x68 m, a 400 m track and sectors for jumping and throwing are located in the competition arena. The premises of the stadium also include a training field, volleyball, basketball, *gorodki* grounds, and tennis courts.

The stadium was modernised for the Olympic football tournament in 1979. The grass on the playing field was improved. The central stand with 8,000 seats was enlarged by providing a second tier of seats above it. The total capacity of the stadium was increased to 50,000 seats.

Sections for VIPs, officials, and the press were set aside on the central stands with services for VIPs, technical officials, a press subcentre and others located beneath.

Spectator seats were replaced in all the stands.

Locker rooms with showers under the southern stands were replanned. Two new scoreboards were installed.

Four 60 m towers holding blocks of powerful floodlights were erected at the stadium to illuminate the competition area and ensure high-quality colour TV broadcasts.

In order to improve the approaches to the stadium, the adjoining streets were renovated and a parking lot for 570 cars was laid out.

The renovation project for the stadium was drawn up by the Minskproekt Design Institute.

## Sports Facilities Built or Reconstructed for the Games and Used for Training by the Teams of National Olympic Committees

**Moscow**

The sports centre of the State Central Institute of Physical Education (SCIPE), a basketball court, two boxing rings, an athletics area or indoor track, and 22 weightlifting platforms;

the sports centre of the Central Sports Club of the Army (CSCA): a basketball court, two rings, an eight-lane swimming pool, 1 gymnastics and two fencing halls;

the ten-lane swimming pool of the Central Navy Sports Club (CNSC);

the CSCA sports hall with two rings;

the CSCA equestrian centre: one show-jumping ring;

the CNSC boxing gym: two rings;

the Moscow University sports centre: three volleyball courts;

the sports centre of the Bauman Higher Technical School: two rings, a volleyball court;

the sports centre of the Gubkin Petrochemical Institute: two rings, two gyms;

the boxing gym of the Central School for Higher Sports Qualifications of the Moscow City Soviet's Education Department: four rings;

the Moscow Olympic Aquatic Sports Centre: two pools with 26 lanes; two water-polo baths;

the swimming pool of the Central Dynamo Stadium water-polo bath;

the sports centre of the Oktyabr Stadium: a basketball court, a judo gym with eight tatamis, an eight-lane swimming pool;

the swimming pool of the Trud Sports Club: a ten-lane bath;

the sports centre of the Lenin Komsomol Motor Works: a wrestling hall with 20 mats; a ten-lane swimming pool;

the Chaika swimming baths of the Moscow Sports Committee: a water-polo pool;

the boxing gym of the Torpedo Sports Club: two rings;

the games gym of the Iskra Sports Club: a basketball court;

the Krylya Sovietov Sports Palace: a gym;

the Kristal Sports Hall of the Central Lenin Stadium: a gym;

the training centre of the Central Dynamo Stadium: a gym, a fencing hall;

the Grand Arena of the Central Dynamo Stadium: an athletics area;

the Northern and Southern training areas of the Lenin Central Stadium: two athletics areas;

the Znamensky Brothers Indoor Stadium: an athletics area;

the sports centre of the Moscow Pioneers Palace: a gym;

the rowing centre of the Trud Sports Club;

the Svyazist multipurpose sports hall: a handball court;

the games centre of the Kuntsevo Sports Club: a handball court;

the training ground of the Lenin Central Stadium: two football pitches;

the Spartak Games Palace: a hockey pitch;

the archery butts of the Trade Union Olympic Sports Centre: one butt;

the sports centre of the Olympic Village: a basketball court; a gym; a hall for body-building; a diving pool; an athletics area.

**Leningrad**

The Lenin Stadium: a football pitch;

the Army Sports Club Stadium: a football pitch.

**Kiev**

The Dynamo Stadium: a football pitch;

the Army Sports Club Stadium: a football pitch.

**Minsk**

The Tractor Stadium: a football pitch;

the football ground of the Staika Training Centre: ten pitches.

# Major Support and Service Projects

# Olympic Television and Radio Complex

Apart from erecting and modernising sports facilities, many engineering projects for servicing the Games and meeting the needs of their participants and guests were built and equipped during the preparations for the Games of the XXII Olympiad.
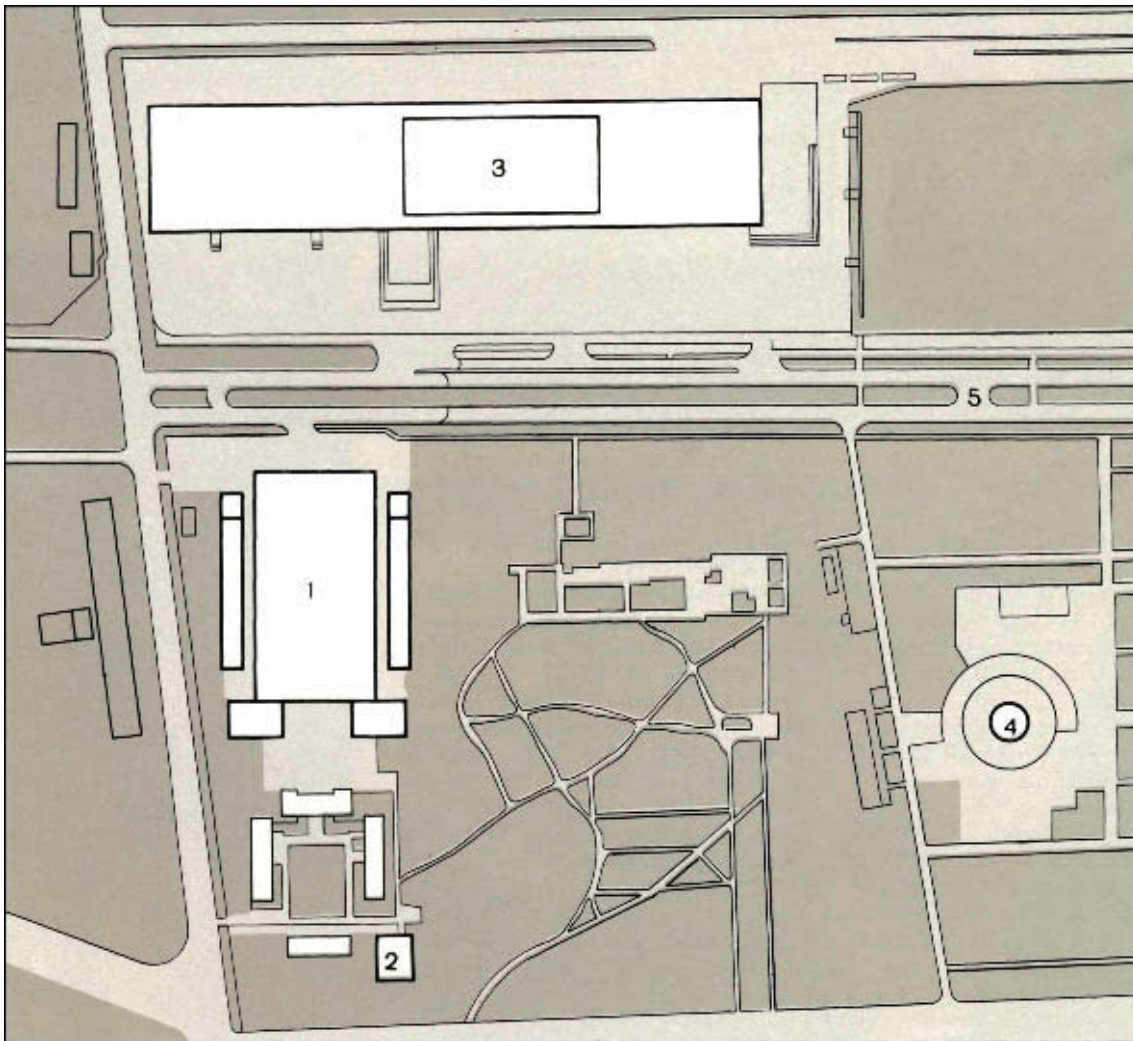




**Olympic TV and Radio Complex**

**Olympic Television and Radio Complex (OTVRC)**
**General Layout**
1. Olympic Television and Radio Centre (OTRC)
2. Olympic Switching Centre (OSC)
3. Television Technical Centre named after the 50th Anniversary of the Great October Revolution (TTC)
4. Ostankino TV tower
5. Academician Korolev Street

The existing Television Technical Centre named after the 50th Anniversary of the October Revolution (TTC), with its TV tower in Ostankino, incorporated the buildings of the Olympic Television and Radio Centre (OTRC) and the Olympic Switching Centre (OSC) built for the Games, thus forming the Olympic TV and Radio Complex.
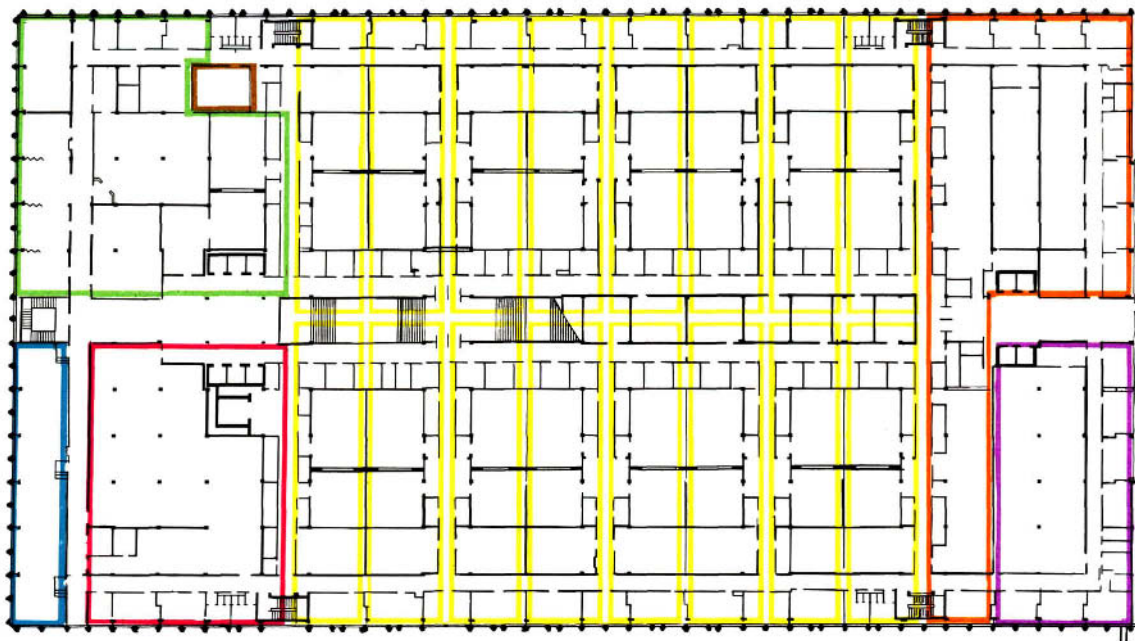
The new OTRC building faces Academician Korolev Avenue. Its first five floors are occupied by services for film production, television and radio broadcasting. Two upper floors house equipment. A conference room with 150 seats, utility and service rooms are located in the basement. A three-storey annex adjoins the main OTRC building. It contains a cafeteria and a bar for personnel.

The OTRC building was the first of its kind to be erected from precast elements. Industrialised erection techniques made it possible to complete the construction in a very short time.

The new broadcasting centre had a trial run as early as the VII USSR Summer Spartakiade.

High-quality Soviet-made materials were used to finish the working rooms and studios of the centre. Most comfortable conditions were created in all rooms for the personnel. Soundproof and sound-absorbing walls meet the most rigorous specifications. The power supply for the OTRC is guaranteed by four independent power sources. Power stabilisers en-sure reliable operation of the equipment. The building is equipped with powerful air-conditioning units and gaseous-agent fire-extinguishing plants.

The personnel and matériel are transported between floors by seven freight and ten passenger lifts.

The OSC is shaped as a 14-storey tower 62 metres tall. Aerials put up on the roof received television and radio signals fed over 50 relay circuits by transmitters installed at the Olympic venues and by mobile stations.

The tower contains switching equipment that links together all the television and radio broadcasting networks of Moscow.

The OSC building was erected from large precast concrete blocks. Like the OTRC, it provides comfortable working conditions for the personnel.

The OTRC and OSC buildings were designed by Workshop 14 of the Mosproekt-1 Department in cooperation with specialised design offices of appropriate ministries and government agencies.

# ACS "Olympiad" Building
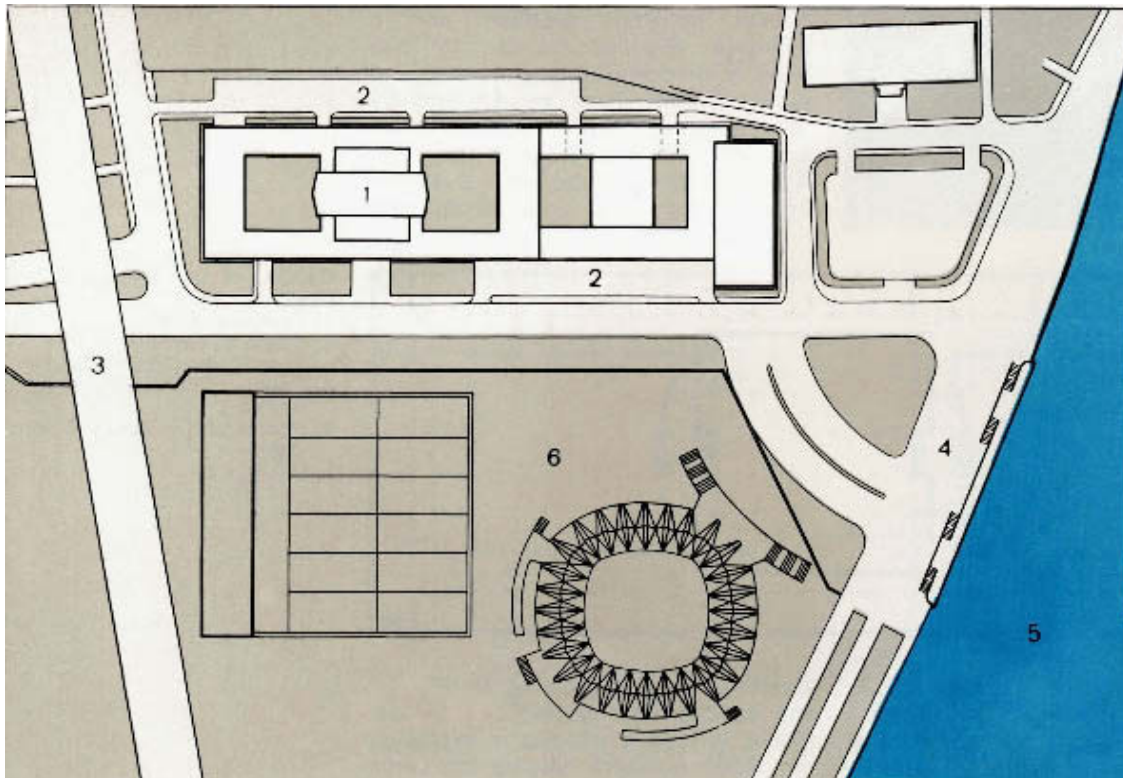




**Façade of the ACS "Olympiad" building**

**ACS "Olympiad"**
**General Layout**
1. Building of ACS "Olympiad"
2. Parking lots
3. Komsomol Avenue
4. Luzhnetskaya Embankment
5. Moskva River
6. Territory of the Central Lenin Stadium

Headquarters occupied part of the building from April 1980.

The closed rectangle of the building covers an area of 135x54 m, including two inner yards with shrubs and grass. On the ground floor is the main lobby, with two lift lounges on both sides and staircases connecting all the floors. The ground floor also houses copying machines and a cafeteria. Machine rooms with two rows of windows occupy the first and second floors. They are adjoined by utility rooms and offices located around the perimeter of the first floor. A coordination centre with a paging control room for competitors and
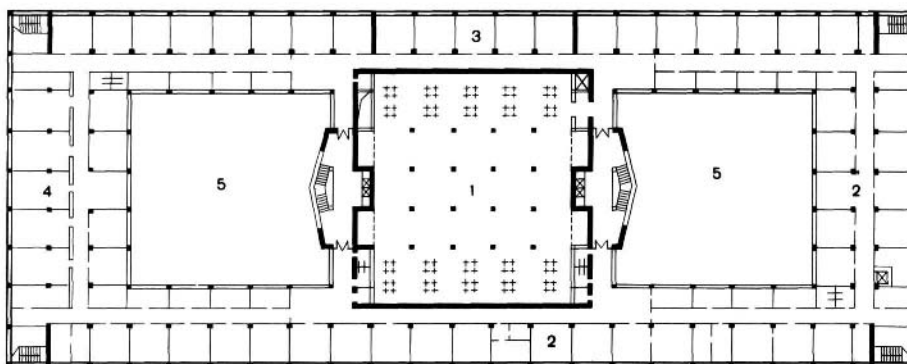


**Building of ACS "Olympiad"**
**First Floor Plan**
1. Computer room
2. Office of the Sports Programme Control Centre
3. Rooms of the Main Computer Centre
4. Rooms of the Games' Control Centre
5. Inner yards

A building to house the ACS "Olympiad" automated control system, situated in Luzhniki on the bank of the Moskva River near the Lenin Central Stadium, was completed in 1979. The Main Computer of the system was installed there immediately. Some divisions and services of the OCOG-80 also moved there. The Games Control guests of the Olympics was located on the second floor during the Games. There is also a telephone exchange for 3,000 numbers serving the Lenin Central Stadium. A conference hall with 420 seats is on the third floor.

The skeleton of the building was assembled from precast ferro-concrete units. The roof of the conference hall

is supported by steel girders spanning 18 metres.

The ACS building is equipped with all types of modern engineering facilities. The automated control centre is serviced by a continuous power supply, air conditioning, and gaseous-agent fire-extinguishing systems.

The ACS "Olympiad" building was designed by Workshop 2 of the Moscow Research and Design Institute of Cultural, Recreational, Sports, and Health Facilities.

After the Games were over, the building was put at the disposal of the USSR Sports Committee, and its data processing technology is now used by the Moscow City Soviet's Executive Committee for automated control of the city's utilities and by the USSR Sports Committee to service major competitions.
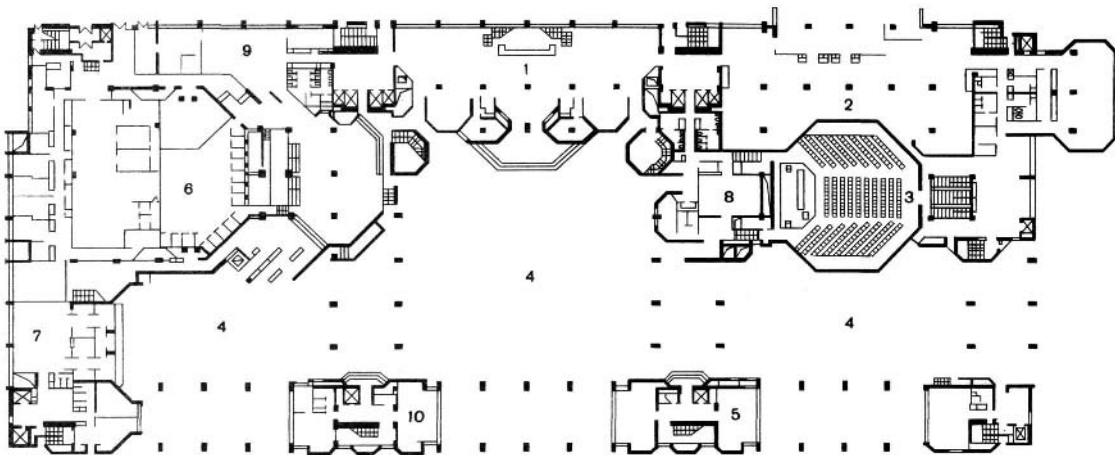
# Main Press Centre

**Ground Floor Plan**
1. Lobby with press lockers
2. Restaurant
3. Conference hall
4. Inner yards
5. Accreditation desk
6. Photo complex
7. Repairs shop
8. Television studio
9. Post-office
10. Service bureau

As provided for by the Master Plan for the Development of Moscow, a large building for the Novosti Press Agency (APN) and offices of the USSR Union of Journalists was completed on Zubovski Boulevard by the time when the Games started. It housed the Main Press Centre of the Olympic Games. Up to 3,000 accredited media representatives could work there at one time.

The location of the Main Press Centre at an intersection of Sadovoye Ring and Komsomol Avenue, near Park Kultury Metro Station ensured good transport connections with the hotels where the media were accommodated and with the venues.

The six-storey building of the Main Press Centre includes three communicating inner yards, each with a separate exit on to Sadovoye Ring. Separate entrances from the yards lead to different sections of the building.

The architecture of the building was designed to match surrounding modern constructions and the architectural monument Military Depots located nearby. The skeleton of the building was assembled from precast ferro-concrete units and its
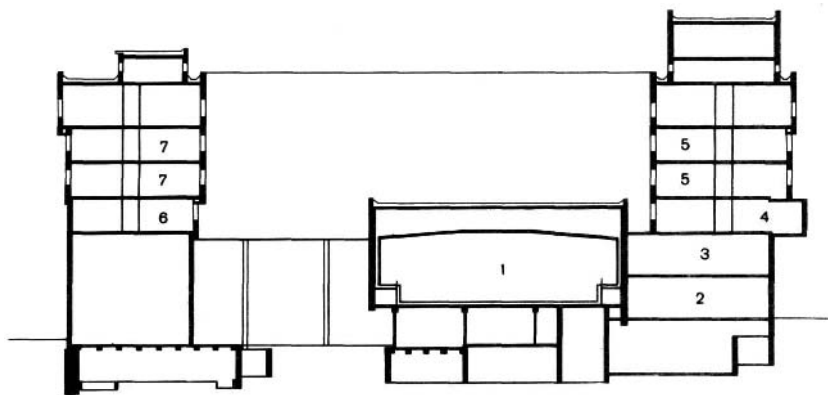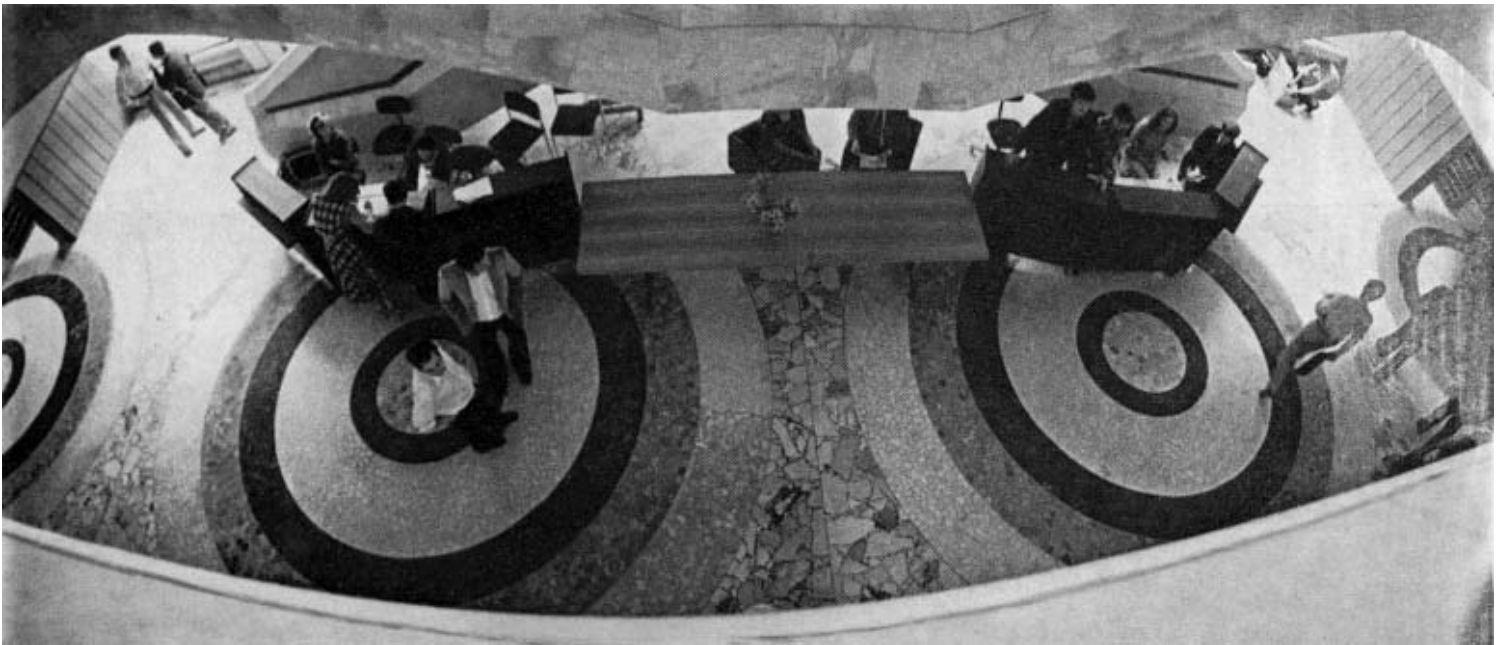
cladding, from wall panels. The use of standardised prefabricated components and comprehensive mechanisation of erection made it possible to complete the building for the Main Press Centre in a short time.

The building was designed by the Moscow Research and Design Institute of Cultural, Recreational, Sports, and Health Facilities.
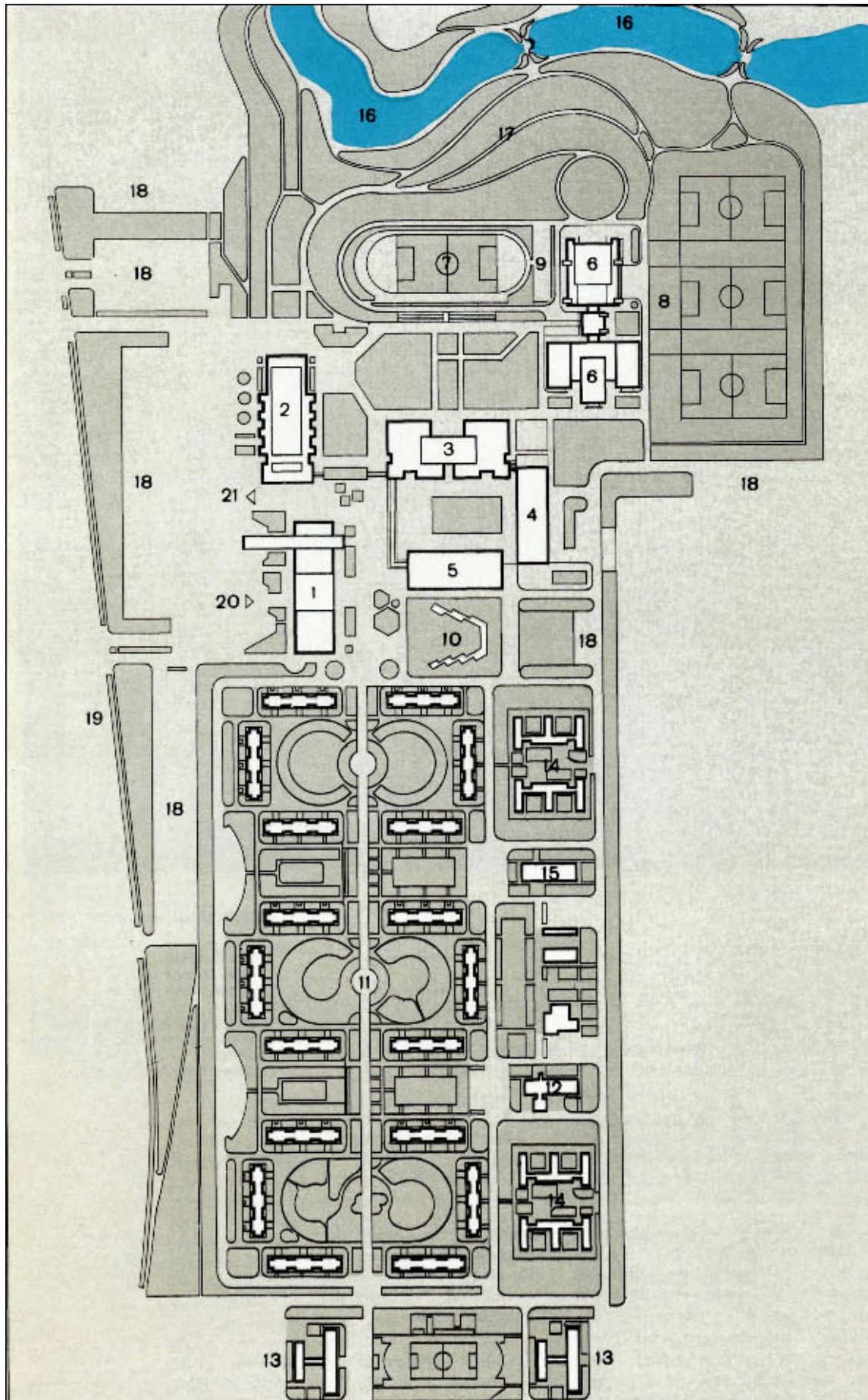
**Olympic Village
General Layout**
 1. Directorate
 2. Cultural Centre
 3. Cafeteria
 4. Department store
 5. Personal Service Centre
 6. Sports complex
 7. Stadium (football and athletics field)
 8. Training football fields
 9. Basketball and volleyball grounds
10. Square of Nations
11. Living quarters
12. Polyclinic
13. School
14. Kindergartens
15. Telephone exchange
16. Ponds
17. Park
18. Parking lots
19. Michurin Avenue
20. Main entrance into the Village
21. Exit

**The Olympic Village. General view**

**Directorate building**
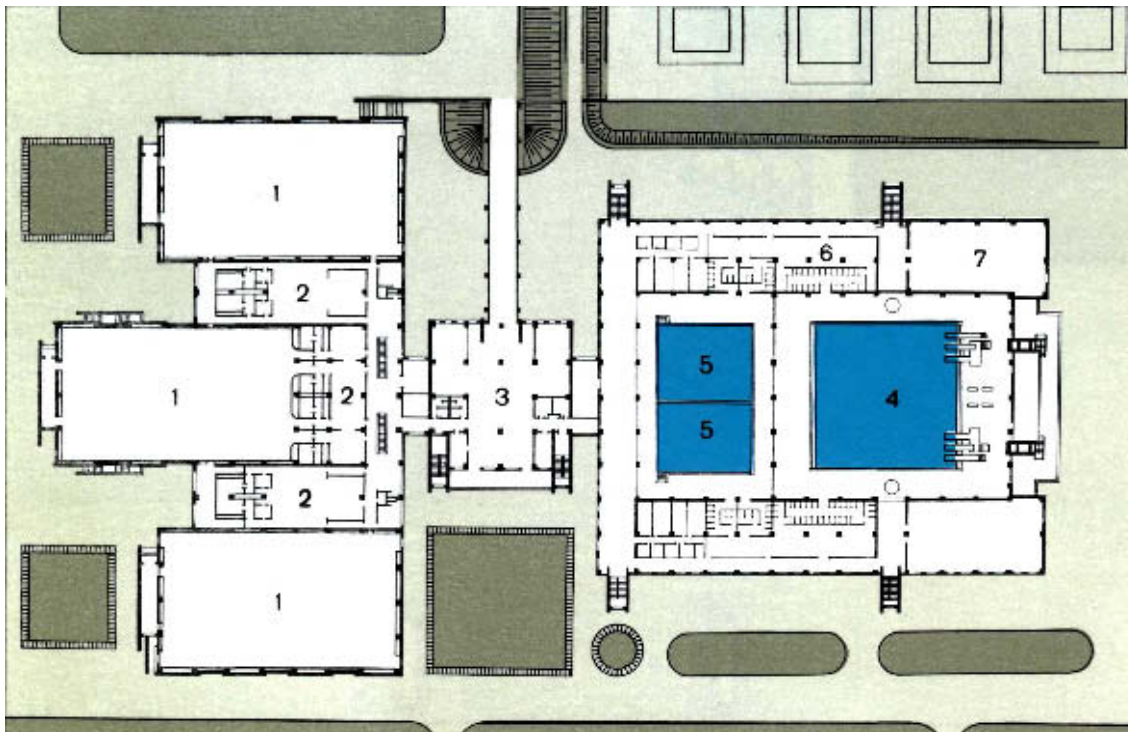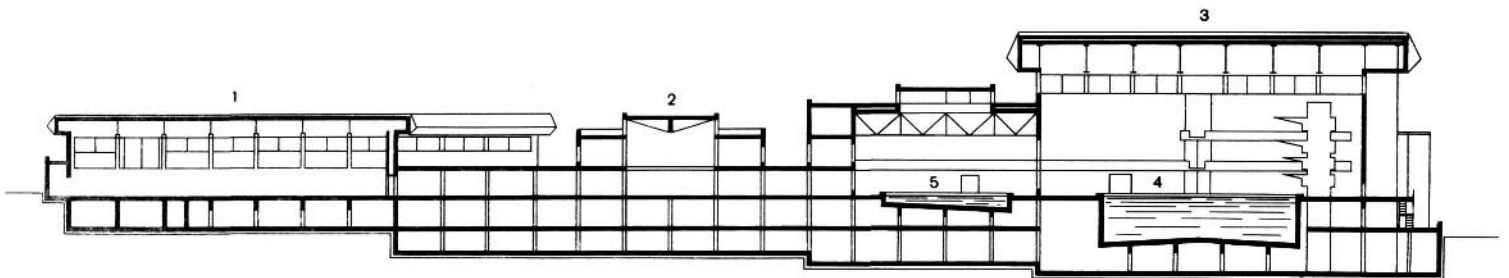
**Olympic Village
Sports Complex
Longitudinal Section**
1. Sports hall
2. Office building
3. Swimming pool
4. Diving bath
5. Wading (warm-up) pools

**Plan**
1. Sports halls
2. Dressing rooms for sports
   halls
3. Lobby
4. Diving pool
5. Wading pools
6. Dressing rooms for pool
7. "Dry swimming" halls
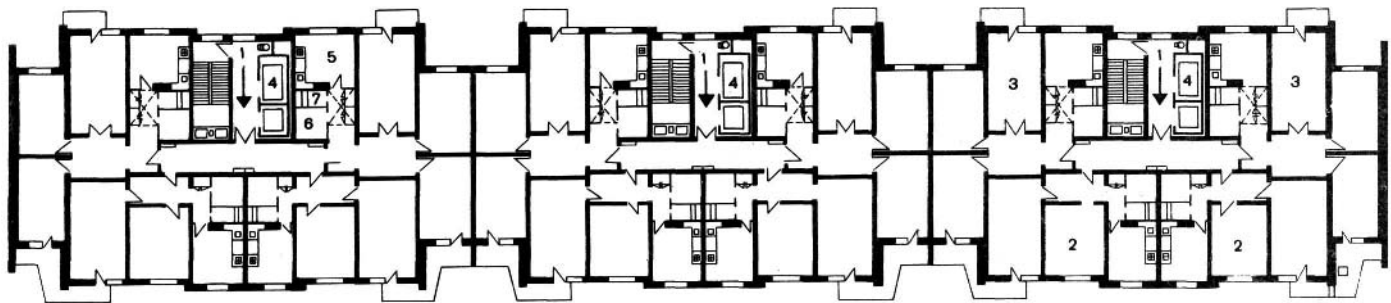
The Olympic Village, situated in the southwest of Moscow along Michurin Avenue, was designed and constructed with a view of using it as a new residential area after the Games. Prefabricated housing techniques, common for the construction of residential building in Moscow, made it possible to build the Olympic Village in a very short time and to prepare it fully for the Games.

The following facilities occupied the 107 hectares of the Village: eighteen 16-storey apartment buildings, a large sports complex with three gyms, 42x24 m each, an indoor swimming pool, track-and-field and football training grounds; a Cultural Centre with an auditorium seating 1,200 and two cinema halls, each with 250 seats; public catering outlets, personal services, shops, and an office block.

Two-room and three-room apartments with all amenities were provided in the Olympic Village.

The shopping and personal service centre included a restaurant for competitors, a department store and a personal service complex. An ice-cream parlour, Russian Tea pavilion, and a Milk Bar were located on the verandas.

The medical services of the Village occupied a specially constructed polyclinic building.

A former vacant lot crossed by the Samorodinka River, which now forms the territory of the Olympic Village was transformed into a comfortable living area. The features of the terrain were utilised to arrange a casçade of ponds with delicate bridges and boat stations. Trees and shrubs were planted and walkways laid in different directions.

The Olympic Village was designed by Workshop 15 of the Mosproekt-1 Department.

**Living area of the Olympic Village**

**Olympic Village Apartment Building Typical Floor Plan**
1. Entrances into building sections
2. Two-room apartments
3. Three-room apartments
4. Lifts
5. Kitchens
6. Bathrooms
7. Toilets

135

# International Youth Camp



The International Youth Camp was built for the Games on the bank of the Klyazma River near Moscow, in the vicinity of Sheremetievo-2 Airport. Three permanent buildings for living quarters, with 173 beds each and tents for a total of 1,000 people, were erected in the area covering 37 hectares.

The residential unit housed a restaurant with a seating capacity of 500, an auditorium with 400 seats, a lecture hall accommodating 120, a library complete with a reading room, a discotheque, and television lounges. A 30x20 m gym and a 25x10 m swimming pool were also located there.

In addition, there were also the Reception House, an outdoor dining room with 1,000 seats, an outdoor cinema seating 800 spectators, a football pitch with a running track and areas for jumping and throwing, a first-aid station, and various services.

The International Youth Camp was designed by the Central Research Institute for Design of Resort Buildings.

In the final analysis of the job done by the builders, it must be mentioned that all the sports installations and other Olympic facilities erected in Moscow, Tallinn, Leningrad, Kiev, and Minsk won the praise of both participants in and guests to the Games of the XXII Olympiad. Many similar statements may be added to those quoted above. For example, Robert Watson, General Secretary of the Fédération internationale de hockey, said, "I've seen most of the Olympic facilities and the Olympic Village and was immensely impressed. I'm glad for you, bravo, Moscow!"

A correspondent of the Belgian newspaper, *Soir,* reported from Moscow during the Games, "The quality of the sports installations aroused unanimous admiration." Indeed, there is no doubt that the quality of the Olympic facilities greatly contributed to the success of the Games of the XXII Olympiad.

**Buildings of the International Youth Camp**

The advance of science and technology increasingly affect the organisation of modern Olympic Games. In addition to being a festival of sports, they have become nowadays a sort of a showcase for scientific and engineering achievements. Any more or less important sports event is inconceivable today without sophisticated and diverse support equipment.

Millions of sport fans all over the world want to witness the Olympic competitions and to know their results immediately. It takes the latest computers, broadcasting and telecommunications technology as well as the precise refereeing and information equipment and other technical means to accommodate this and many other needs, and to distribute the information about the Olympic Games throughout the world.

As required by the Olympic Charter, results of the events should be communicated, as soon as possible, to the mass media and, first of all, to TV and radio broadcasters.

This chapter deals with the automated information systems at the Games of the XXII Olympiad for ensuring the broadcasting and telecommunication services. The application of the refereeing and score-keeping equipment as well as other sports apparatus is described in Chapter IV "Preparation and Staging of Competitions".

The main objectives of the OCOG-80 with regard to the supply of technology for the Games of the XXII Olympiad were defined as follows:

— to organise the work on preparation of technical facilities for the Games;

— to coordinate the activities of the ministries and government agencies concerned on developing the new and modernising the existing technical facilities needed for staging the Games at a high technical and organisational level;

— to ensure supervision over the timely progress of work on the technical servicing of the Games;

— to ensure that the new and modified technology makes the maximum use of the latest achievements in science and engineering in the Soviet Union and other countries with whom the USSR traditionally maintains stable economic relations;

— to minimise the number of technical systems and devices designed for use during the Games only;

— to organise the training of personnel to be engaged by the OCOG-80 in the operation and maintenance of technical systems during the Games;

— to make sure that the automatic data-processing system (ACS), telecommunications and broadcasting circuits function well.

The Technology Department formed by the OCOG-80 in 1976 was made responsible for the above activities. It consisted originally of two divisions with two more added later, in mid-1978. The Department numbered 40 members by the start of the Games.

As the Moscow Games approached, new and renovated sports facilities were made increasingly available for a great number of preparatory jobs, for installation, start up, and trial runs of all technical systems. Therefore, to keep better watch on the work directly at the sites, the Service of Technical Systems (STS) was set up in March 1979 attached to the Technology Department. It consisted of 119 members by the time the Games opened.

The STS provided coordinators for all the venues. In cooperation with the Technology Department, before the Games, the coordinators organised the training of personnel to be engaged in the operation and checking of the equipment during the Olympics.

The Technology Department of the OCOG-80 worked in intimate contact with the Commissions dealing with the results service, automatic data-processing systems, television and radio broadcasting, and communications.

The best research, engineering, and industrial institutions of the country were invited to provide technical facilities for the Games. About 30 ministries and government agencies developed sophisticated technical systems and equipment. More than 100 Soviet research institutes, design offices, and industrial enterprises participated in the supply of technology for the Olympic venues. They designed, manufactured, delivered, installed, started up, tested, accepted, and operated the technical systems and equipment. Over 80 per cent of the equipment were supplied by the Soviet Union and other CMEA member states who have long-established scientific, technological, and economic ties with the USSR. Major enterprises of socialist countries, who participated in the CMEA joint radioelectronics projects, proved themselves to be reliable partners of the OCOG-80. The equipment delivered by these enterprises, by many other official suppliers to the 1980 Games in Moscow, and by the companies which cooperated with the OCOG-80 on a commercial basis performed quite well.

# Computerised Results Service

Vast amounts of data have to be processed in the course of preparation and staging of the Olympic Games. This is the reason why the organisers resort to computers, particularly in the administration of and supply of information about Olympic competitions.

Computers were first used to process the results at the Winter Games in Squaw Valley in 1960. That experience had demonstrated that computers considerably accelerate data processing and presentation of results in a format most suitable for users. Thus, computers were used practically at all the subsequent Olympic Games. Organisers of the 1968 Olympic Games in Mexico tried to do without them and immediately encountered great difficulties as they had to engage the tremendous number of personnel to handle and to deliver information to those who needed it.

The previous Olympic Games gave rise to certain regulations and traditions for the provision of data. For example, result summaries had been issued on the day of closing the Games (in Munich and Montreal).

The OCOG-80 decided to use automatic computerised systems to perform the following tasks:

— preparation and organisation of the Games;

— registration of competitors and officials of national teams;

— results processing;

— information and inquiry services for the media, technical officials, and officials;

— prompt supply of results to international and national news agencies;

— issue of daily results journals and participant and results brochures.

The huge amount of information involved, a great variety of its flows, the scattering of its sources and addresses over many locations, extremely high specifications for completeness, reliability and speed of processing the data called for creation of a complex of automatic results systems. They included: ACS "Information", ACS "Competitions", ACS "OCOG", a computerised results service for international and national news agencies (SIMTA-80), a computerised system for printing daily journals and brochures ("Express" system).

The first three systems were integrated into an automatic data-processing system which was named ACS "Olympiad". The SIMTA-80 and Express systems were based on data supplied by ACS "Olympiad".

# ACS "Olympiad"

The Ministry of Instrument-Making, Automation Means, and Control Devices (Minpribor) was made responsible for the development, installation and operation of the ACS "Olympiad" system. The leading designer was the Moscow Research and Design Institute of Network Planning and Industrial Management Systems (MNIPI SPU).

The ACS "Olympiad" system went through the following steps of development:

1975-1976—feasibility survey, study of experiences of the organisers of previous Games, accumulation of experience in organising and staging major sports events;

1976-1977—the listing of initial requirements, development of general performance specifications, and selection of a complex of hardware and a functional structure for ACS "Olympiad"; study of the operation of computerised data-processing systems at the Winter Games in Innsbruck and at the Olympic Games in Montreal; discussions of propositions from foreign companies for cooperation in the development of ACS "Information" and selection of a partner;

1977-1978—the signing of a contract with IBM (USA) for supply of a part of equipment for ACS "Information" and participation in the development of the project by the Minpribor; provision of testing grounds for trial runs of computers and for checking designs of the ACS "Olympiad" components; development of the detail and contractor designs for the ACS "Information" as well as for the ACS "Competitions" and ACS "OCOG" systems; delivery of equipment, preparation of space for the Main Computer Centre and regional computer centres, trial run of the first version of ACS "Information" only in Russian and ACS "Competitions" at the XXX Baltic Regatta in Tallinn;

1979—trial operation of ACS "Olympiad", organisation of communication channels, comprehensive tests of the systems, training of personnel as needed to operate the system at the VII USSR Summer Spartakiade, testing of the system at the finals of the Spartakiade and XXXI International Baltic Regatta in Tallinn, corrections to the system on the basis of the testing results;

1980—the updating of software for ACS "Olympiad" to increase its capacity; installation and adjustment of the whole peripheral equipment, putting all the regional computer centres into operation; organisation of all the communication channels; installation and adjustment of result-lists copying machines; training of personnel for all work stations; testing of the systems at trial competitions; operation of the systems during the Games of the XXII Olympiad.

It should be noted that ACS "Information" was updated, debugged, and operated during the Games by Soviet engineers to high technological standards in spite of the fact that IBM had refused to deliver an additional equipment and to continue cooperation in December 1979.

# ACS "Information" and ACS "Competitions"

The main objective of these systems was an improvement in the data processing services for the Olympic Games which included the following activities:

— rapid processing of entries and listing of competitors, judges, and officials of national teams;

— compilation of start lists, results lists, and final results summaries;

— distribution of information on the progress and results of competitions to the media, participants, and guests;

— preparation of data to be included into official brochures listing competitors and results in each sport;

— preparation of data to be supplied at high speed to the international agencies and to be included into daily printed journals;

— elimination of the many calculations that technical officials had to do manually and timely discovery of errors (in pace with the progress of competitions) which are registered by referees or judges in scoresheets of seven sports: athletics, gymnastics, water polo, basketball, handball, fencing, and yachting.

The ACS "Information" hardware consisted of:

a. A complex of two IBM 370/148 computers with magnetic tape and magnetic disc stores, punch card inputs and outputs, control consoles, and local terminals.

b. The data teleprocessing system including two IBM 3705 communication processors, a data transmission network and data teleprocessing terminal equipment installed at points of information input and output.

c. Copiers.

d. Personnel intercommunication devices.

To increase reliability of the whole system, one of the two computers was held in reserve. Besides, there was a possibility of making the central processing unit, magnetic tape and disc control devices and local terminal control devices stand-by separately.

The ACS "Competition" hardware consisted of computer complexes produced by the Minpribor. They were installed in 5 regional computer centres at the following areas: Luzhniki (The Lenin Central Stadium), CSCA (Central Sports Club of the Army) Sports Complex, testing grounds, Tallinn, and Mir Avenue.

The first four centres had standard designs, each consisting of the following functional units:

a. A basic complex of two ASVT M-7000 computers with additional external storages and peripheral communication links.

b. Data teleprocessing systems including data links and terminal units.

The computer centre in the Mir Avenue area had a SM-2 computer equipped with additional auxiliary hardware ensuring high capacity and reliability of the whole system and a network of terminals installed at the Olympiiski Indoor Stadium.

Software of ACS "Information" was totally based on standard systems: the OS/VS 16.7 operating system and the CICS/VS 1.4 user information control system. Application software was made up of modules and provided for two modes of operation:

— batch processing for less urgent operations;

— on-line mode for immediate processing of transactions entered from remote terminals.

The operating system used by ACS "Information" expanded virtual memory to 16 Mbytes with a capacity of the main working storage of 1 Mbytes. ASSEMBLER, COBOL, and PLI programming languages were used for the development and debugging of programmes, as were debugging and optimising compilers and devices for simultaneous operation of a great number of programmers with original texts.

Application software of ACS "Information" included transactions for registration of competitors, judges and officials, transactions for results processing in 21 sports, transactions for responses to inquiries, and transactions for real-time control of ACS "Information".

Software of ACS "Competitions" included general software and application software for the seven sports mentioned above.

The general software of ACS "Competitions" was based on an aggregated programming system. A separate disc multiproblem operating system was developed on the basis of the aggregated programming system for each regional computer centre. Programming languages, MNEMOCODE, FORTRAN IV, and MACROLANGUAGE, provided by the aggregated programming system, were used to develop and to debug the programmes.

The application software of ACS "Competitions" was made up of modules and included:

— special application programmes used in all automatic data-processing systems controlling competitions;

— problem processing programmes by sport which realised algorythms of data processing and printing of scoresheets.

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                              ┌─────────────────────────────┐
                              │       ACS "Olympiad"        │
                              └─────────────────────────────┘
                                           │
        ┌──────────────────────────────────┼──────────────────────────────────┐
┌───────────────────┐          ┌───────────────────────┐          ┌───────────────────┐
│ ACS "Information" │          │   ACS "Competitions"  │          │    ACS "OCOG"     │
└───────────────────┘          └───────────────────────┘          └───────────────────┘
        │                                                                    │
┌───────────────────────────┐                                    ┌───────────────────────────┐
│ ACS "Olympiad" (Main       │                                    │ ACS "Olympiad" (Main       │
│ Computer Centre)   room 1. │                                    │ Computer Centre)   room 2. │
└───────────────────────────┘                                    └───────────────────────────┘
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| Tallinn Regional Computer Centre | Luzhniki Regional Computer Centre | Mir Avenue Regional Computer Centre | CSCA Regional Computer Centre | Testing Ground Regional Computer Centre |

| ACS "Olympiad-Sail" | ACS "Olympiad-Athletics" | ACS "Olympiad-Basketball" | ACS "Olympiad-Handball" |

ACS "Olympiad-Registration"

ACS "Olympiad-Gymnastics"

ACS "Olympiad-Fencing"

Subsystem "Accounting"

ACS "Olympiad-Result"

ACS "Olympiad-Water Polo"

Subsystem "Ticket Distribution"

ACS "Olympiad-Information"

Subsystem "Supervision of Preparations for 1980 Olympics based on network patterns"

ACS "Olympiad-Technology"

Subsystem "Payroll"

Subsystem "Press Accreditation"

**ACS "Olympiad"**

139 remote terminals of 34 Olympic venues in Moscow, Tallinn, and Kiev were connected to the ACS "Information" computer, including 129 display stations, each consisting of an IBM 3275 video terminal and an IBM 3284 printer; ten high-speed IBM 3780 printers.

The IBM 3275 terminals were divided into three groups:

**Input devices.** Used to enter information about competitors and progress of competitions from all the venues, including the Olympic Village, into the computer. They were installed at competition sites in the areas of secretariats of technical officials and in the Olympic Village at the registration point.

**Output devices.** They automatically printed out results of competitions held only at a given venue and were installed in press subcentre areas close to copiers.

**Inquiry terminals.** They were designed to produce diverse reference information on request and were installed in the Main Press Centre, at all press subcentres, in the Olympic Television and Radio Centre (OTVRC), Television Technical Centre (TTC), Olympic Village and at the Soviet News Agency (TASS).

High-speed printers produced "all about everything" information. They were installed in the Main Press Centre, OTVRC, Olympic Village, and TASS. The latter needed the inquiry terminals and high-speed printers to serve the SIMTA-80 system.

134 remote terminals were operated from July 20 through August 3, including:

| | |
|---|---|
| input terminals | —51 |
| output terminals | —27 |
| inquiry terminals | —51 |
| high-speed printers | — 5 |

and 9 local terminals in the Main Computer Centre.

A maximum of 127 terminals was engaged during July 23. Up to 102 terminals (44 of them, inquiry terminals) worked simultaneously.

ACS "Information" registered participants, officials, and referees. Data were entered and processed for the following categories:

F Category—national team members;

C Category—chefs-de-mission, their assistants, and Olympic attachés.

D Category—jury members, judges, referees, time-keepers, and inspectors.

The above-mentioned were registered in two stages at the Olympic Village from July 3 till August 3. At the

**Input terminal station of ACS "Competitions" at the Grand Arena of the Central Lenin Stadium**

**Data being entered into ACS "Competitions" from the Izmailovo Palace of Sports**

first stage, from July 3 through 19, eighteen input terminals and two high-speed printers (one of them standby) were used. The terminal operators entered data from entry forms by name which included—in the case of competitors—name, surname, registration number, country, sports and events where the competitor in question was supposed to participate, weight, height, best performance, qualifying result, etc. The entries for technical officials indicated, besides name, country and sport, also category and some other information.

The system also provided for registration of horses participating in modern pentathlon and equestrian events.

In the course of the registration, daily progress reports were issued automatically. The following lists were issued to competition organisers and officials to assist them in their work:

— lists of competitors by sport and by athlete's number;

— an overall list of technical officials in alphabetical order;

— an overall list of competitors by sport, event, country, and in alphabetical order.

Once the registration in a particular sport was over, final lists of competitors were issued and magnetic tapes with data for the participant brochures in each sport were prepared.

After all the competitors had been registered, information was prepared for the issue of an overall book listing competitors and team officials.

The processed entry forms made the "Competitors" data base. The system automatically assigned a number to each athlete under which he or she was later listed in each scoresheet. The information contained in the competitors data base was used by the results service for start lists and results lists and by the inquiry system to give replies to queries about competitors.

Three input terminals for possible alterations in the competitors data base and four inquiry terminals to supply information to the inhabitants of the Olympic Village were left at the second stage of registration. The high-speed printers were reset for scoresheets. The other terminals were distributed over Olympic venues.

ACS "Information" processed data on the results of competitions in 203

events and formed 5,076 types of results and start lists, and daily highlights reports.

It served all the competitions of the Games of the XXII Olympiad in Moscow and the Regatta in Tallinn.

The system entered primary information from the venues and processed it automatically calculating results in 13 sports, including archery, athletics, basketball, fencing, gymnastics, modern pentathlon, rowing, canoeing, shooting, swimming, water polo, wrestling, and yachting. It also compiled start lists, results lists and final tables.

The lists were printed out by the output terminals in press subcentres and by high-speed printers installed in the Main Press Centre, OTVRC, TASS, and at the Olympic Village.

After the lists had been copied, they were delivered to broadcast commentators, to press stands, to information and working rooms, to personal pigeon holes of journalists, to offices of agencies, newspapers and broadcasting companies, to the Main Press Centre, OTVRC and press subcentres.

The system also compiled reports on the highlights of each day. The data on the highlights were entered at the venues immediately after the event in question (a record set or champion named).

A highlights report formed by the system consisted of one or several text lines made in the manner of flashes sent by press agencies. The main requirement for the data contained in those reports was the speed at which they were to be transmitted to users. In addition, the information was placed at the disposal of the inquiry system at once. To ensure promptitude of the highlight reporting, the reports were given the status of unofficial information. In the event any correcting data emerged (the record figures corrected or the record cancelled, placing changed, etc.), they were entered into the system and the corrected reports were sent to users. The following documents were compiled and distributed daily on the basis of the highlights reports accumulated in 203 events:

— a list of record breakers in all the events, indicating the record set;

— a list of medal winners in all the events.

These lists were issued in Russian and in combined English and French versions as were the results and start lists. They were produced by the system at the spots where most of the users were concentrated and were accessible via the inquiry system.

The rapid reports and documents containing information on the highlights of the day were compiled automatically for the first time at the Games of the XXII Olympiad thus providing an additional information service.

During the competitions from July 19 to August 3, the results system compiled and produced data for 15 issues of daily *Starts and Results* bulletin, 54 magnetic tapes and their printouts for 21 results brochures, one for each sport, and information for the SIMTA-80 service to be distributed to news agencies.

Some 51 inquiry terminals of the ACS "Information" system installed at the Olympic venues in Moscow, Tallinn, and Kiev gave 144,839 replies to requests for information.

Massive data files were accumulated about competitors, judges, team officials, the progress of competitions and their results, record holders, and medal winners of the Olympics. The inquiry system made this information accessible for users at all times via terminal stations. A typical data-processing terminal station included a remote inquiry terminal, an operator and interpreters. An inquiry was communicated to the operator through an interpreter. The operator worked with a display unit in a conversational mode. The reply was printed out.

Specific information could be obtained about any athlete registered by the system, including past and present performance, about officials, judges, horses, about highlights for each day, world and Olympic records, the Olympic timetable, about the Olympic venues, ACS "Olympiad", about Tallinn and Baltic regattas, the Olympic Torch Relay, and about medical service at the Games of the XXII Olympiad.

The inquiry terminal stations were available to users at all the competition sites in Moscow and Tallinn, at the Olympic Village, Main Press Centre, OTVRC, TTC, Cosmos Hotel, Rossiya Hotel, Main Computer Centre of ACS "Olympiad", the USSR Sports Committee, Moscow City Soviet's Executive Committee, and the Institute of Cybernetics of the Academy of Sciences of the Ukrainian SSR (in Kiev).

ACS "Competitions" had 63 terminals installed at 9 venues in Moscow and Tallinn.

The competitions in athletics, gymnastics, and water polo were served by computers of the Luzhniki regional computer centre located at the Grand Arena of the Lenin Central Stadium. The CSCA regional computer centre in

the CSCA Palace of Sports and the Mir Avenue regional computer centre in the Olympiski Indoor Stadium covered basketball competitions. The former was also used for data processing of fencing competitions. Handball matches were served by the computer centre located at the testing grounds close to the Dynamo Palace of Sports. While the Tallinn regional computer centre in the Yachting Centre there covered yachting competitions.

The terminals of ACS "Competitions" everywhere were installed in close proximity to the competition sites which reduced to a minimum the time required to enter the competition results into the system.

The high degree of automation of data input and processing in the course of competitions, strict computerised monitoring of all indices being registered made it possible to locate in time error situations that might occur due to misunderstandings between judges and between judges and the secretariat.

The machine realisation of labour-consuming computing operations after a single input of data into the computing system made the work of judges much easier and provided them as well as teams and their coaches with more complete and systematised information in the shortest time possible.

Thus, documents containing data of a basketball game were produced within one to three minutes after a game had ended.

Pool classification and compilation of start lists in fencing were automatic at all stages of the competitions, including draws with seeding. This considerably reduced the amount of work to be done by the secretariat and made forced intervals between rounds much shorter.

During yachting competitions, ACS "Competitions" made in-line reports about the progress and results of races, about the weather and changes in competition regulations in a television format and periodically displayed the data on the screens of a four-channel display television network in accordance with specified priorities and functions.

A similar technique was used for athletics competitions where formats of results lists were converted into television formats to be displayed on closed-circuit television screens installed at a press subcentre and working rooms of the electronic press.

ACS "Information" and ACS "Competitions" produced 47,420 results and start lists, and highlights reports in Russian, French, and English in a total of 10 million copies. The systems functioned well and fully implemented the tasks of supplying information for the Games of the XXII Olympiad set for them. Many favourable comments of the IFs and media members are a testimony to this.



**Inquiry terminal station of ACS "Olympiad" at the Main Press Centre**
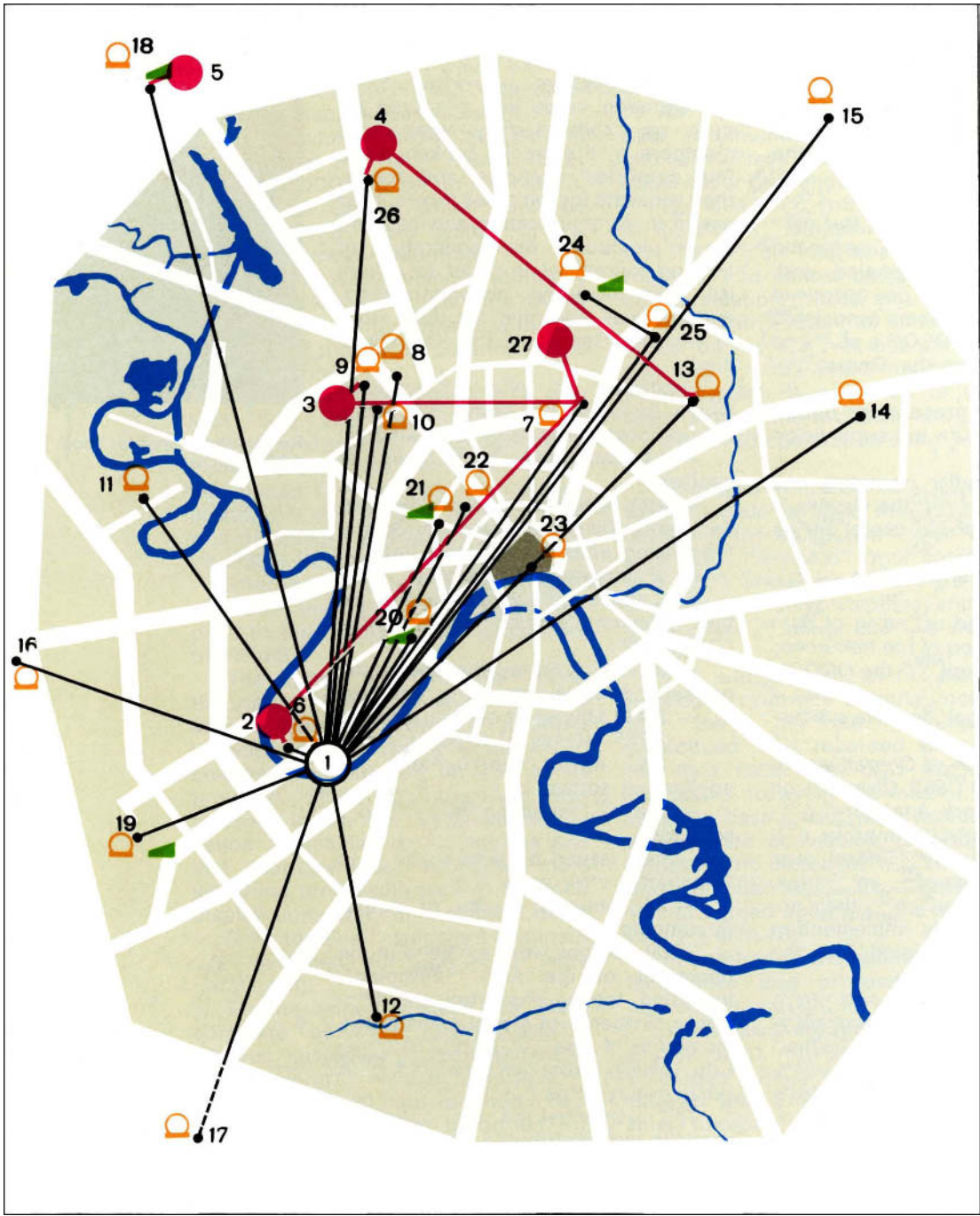
**ACS "Olympiad".
Location of Technical
Facilities**

1. ACS "Olympiad" (Main Computer Centre)
2. Luzhniki Regional Computer Centre
3. CSCA Regional Computer Centre
4. Testing Ground Regional Computer Centre
5. Tallinn Regional Computer Centre
6. Central Lenin Stadium:
   Grand Arena
   Minor Arena
   Swimming Pool
   Sports Palace
   Druzhba Arena
7. Olympiiski Indoor Stadium
   Olympiiski Swimming Pool
8. Dynamo Central Stadium
   Dynamo Minor Arena
9. CSCA Sports Complex
   CSCA Sports Palace
10. Young Pioneers Stadium
11. Canoeing and Rowing Basin
    Olympic Velodrome
    Olympic Cycling Circuit
    Olympic Archery Field
12. Trade Unions Equestrian Centre
13. Sokolniki Sports Palace
14. Izmailovo Sports Palace
15. Dynamo Shooting Range in Mytishchi
16. Cycling route on Minsk Highway
17. Kiev
18. Yachting Centre in Tallinn
19. Olympic Village
20. Main Press Centre
21. TASS
22. Moscow City Soviet
23. Rossiya Hotel
24. OTVRC
    TTC
25. Cosmos Hotel
26. Dynamo Sports Palace
27. Mir Avenue

○ — Main Computer Centre

● — Regional Computer Centre

⌂ — videoterminal

◢ — quick printer

— ACS "Information" channel

— ACS "Competitions" channel
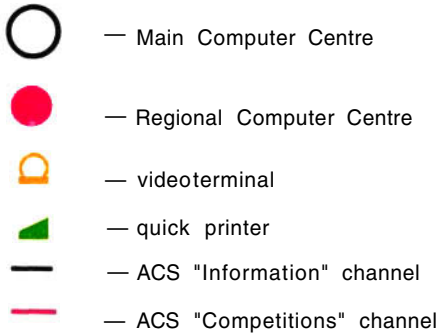
To solve the problems of the OCOG-80 during the preparation and staging of the Games, the ACS "OCOG" system was used, based on three high-speed Soviet-made ASVT M-4030 computers (one of them was in reserve) installed at the Main Computer Centre of ACS "Olympiad".

ACS "OCOG" monitored the overall programme of preparations for the Games of the XXII Olympiad and, besides, provided for computerised solution of some problems associated with activities of the OCOG's staff and directly with staging the Games, including:

— planning of preparatory undertakings for the Games and supervision of their execution;

— bookkeeping for marketing and licensing of emblems of the Games of the XXII Olympiad on merchandise and souvenir items;

— distribution and selling of admission tickets;

— formation and updating of data base for accreditation of the newsmen;

— keeping payrolls of the OCOG's staff.

ACS "OCOG" included five subsystems.

The *"Supervision of Operations for Preparation of the 1980 Olympics on the Basis of Network Analysers"* subsystem was designed to improve efficiency of planning and control over the OCOG departments, ministries, and government agencies in their activities aimed at timely implementing the undertakings associated with the preparation of the Games.

The *"Record-Keeping"* subsystem was designed for automatic bookkeeping with regard to production of merchandise bearing the Olympic emblems and supervision of revenues from their sales.

The *"Ticket Distribution"* subsystem based on allotted quotas and the initial plan of distribution: kept track of and monitored the ticket sales; kept account of revenues from the sales of tickets; did paperwork for each stage of sales; determined the balance for redistribution of tickets.

The *"Payroll"* subsystem was designed to calculate automatically salaries of the OCOG's staff.

The *"Accreditation of Newsmen"* subsystem was designed to process accreditation cards of the media in order to organise better the services for them.

The subsystem processed 5,615 accreditation cards and prepared reports on expected daily numbers of members of the media, broken down into countries, agencies, and sports, their requests for the press boxes, their needs in communication services and so on, including the registration of arriving journalists in order to organise their reception, accommodation, and services essential for their work during the Games of the XXII Olympiad.

Hardware of ACS "Olympiad" which included the above automatic data-processing systems consisted of:

— 14 computers in 6 computer centres;

— 202 terminals in Moscow, Tallinn, and Kiev connected to central processing units by 437 data links;

— 66 magnetic disc stores.

The above hardware provided for the following performance of ACS "Olympiad":

— a total of 5.5 million operations per second for all computing facilities;

— 5,432 Mbytes of on-line storage;

— 2,725 Mbytes of fixed storage;

— 2,5 million instructions of application software;

— the system response of 7 to 8 seconds;

— lists issued to users within 3 to 15 minutes after an event;

— 24 thousand forms of output documents.

3,309 persons were engaged in the operation of the ACS "Olympiad", including technicians from the Minpribor, students of Moscow institutes, members of the OCOG-80, Moscow City Soviet's Executive Committee, and other organisations.

The personnel of the operating services was distributed as follows:

| | |
|---|---|
| Data collection and monitoring | — 223 |
| Data input-output | — 1,068 |
| Copying | — 587 |
| Delivery of information | — 754 |
| Maintenance and software attendance | — 677 |

The ACS "Olympiad" operation services interacted according to a pattern tested during the VII USSR Summer Spartakiade and improved from the experience.



**Part of the computer room of ACS "OCOG"**

The need of the international and national agencies for a high-speed and reliable link with ACS "Olympiad" called for a system that would provide them with messages in a format suitable for immediate transmission.

As far back as 1976, the UPI and AP agencies and later Reuters LTD, asked the OCOG to set up a service at the Moscow Games, which would be similar to the PARS system of the Olympic Games in Montreal.

SIMTA-80 was developed jointly by the TASS, Minpribor, and the USSR Ministry of Communications with participation of the ICL corporation based in Great Britain.

The system was created in a very short time. The operating room was ready for installation of the equipment in March, 1979, the hardware installation began in April, 1979, but already in July the first version of the system was completed and tested during the VII USSR Summer Spartakiade.

After the tests, national news agencies and television broadcasters applied to the OCOG for subscription to SIMTA-80.

The system was modified during the period from September 1979 to March 1980 to allow for a sharp increase in the number of users and change in quality of services to be provided. SIMTA-80's hardware was enlarged in the course of the modification (capacities of the on-line and disk storages were increased, more switching processors were added, edit display units, data line, channel deriving and terminal equipment originally not designed for SIMTA-80 were purchased).

All the work had been practically completed by March 1980 and SIMTA-80 was subjected to comprehensive testing along with ACS "Olympiad".

The SIMTA-80 hardware had a two-machine configuration based on ICL 2904/50 computers. Each computer had an on-line storage of 640 Mbytes, a card reader, a retrievable-fixed disk store with a capacity of 9.8 Mbytes, a magnetic disk store for 60 Mbytes, a line printer, and a punch-tape station.

For data management, the system had 4 double-access disk stores with a total capacity of 240 Mbytes, which could be linked to any computer and were also common and switchable ones. 4 magnetic tape stores were used for archives.

The system had 6 chain processors to hold the communication network and to connect the edit display units, a terminal processor to hold communication-operator and retry-operator display units, and two sets of terminal stations for interface with ACS "Olympiad". All the chain and terminal processors could be connected to any central computer with the aid of the system configurator.

All the devices for the SIMTA-80 data communication in the OTVRC and Main Press Centre buildings had equal-capacity stand-bys.

The SIMTA-80 software was a set of the central computer programmes, IBM 370/148 interface subsystem routines, and control programmes for communication processors.

The central computer software was based on the Exec 3s operating system and on the mts-2 multitransactional system. It consisted of seven large programme modules.

SIMTA-80 operated in the following way.

Messages from ACS "Olympiad" in EBCDIC code fed into the input processor of the subsystem for interface with ACS "Olympiad" were converted into ASCII code, recorded on a disk, checked for completeness, and enqueued for feeding into the central computer.

The central computer received the messages from the output processor of the interface subsystem, catalogued and recorded them into the data base. The data base was duplicated to avoid the loss of messages in case a disk pack failed. The set of data conversion programmes retrieved the messages from the base and compiled a results release in a format agreed upon with the agencies using SIMTA-80.

In addition to the results lists, start lists were also processed into an appropriate output format. Three results releases were formed in Russian, English, and French from two input messages (one in Russian and one in English and French combined). The three releases were recorded into the base.

The process of conversion of an input message from ACS "Olympiad" into a results release was concluded with recording the results release thus formed into the data base and with feeding the messages into the programme module which transmitted messages to users.

Besides the reception from ACS "Olympiad", the software allowed to receive messages of correspondents from venues and to enter such messages from punch tape.

The SIMTA-80 software was developed with due regard to the requirement for ensuring survivability of the system. All the data files were duplicated, the magnetic media could be

reconfigurated, a provision was made for switching over to the standby computer without losing the information if the main computer failed.

SIMTA-80 operated at the Games of the XXII Olympiad in Moscow from July 18 through August 3 daily from 7.00 a.m. to 12.00 p.m. 9,883 lists were received from ACS "Olympiad" and 16,231 result releases were issued. Input messages for SIMTA-80 totalled 13,852 and output messages—19,316.

The users of SIMTA-80 included TASS, Reuters, Associated Press, United Press International, France-Presse, and many national news agencies, as well as such broadcasters as TV Asahi, ITV, Eurovision, and Central Television of the USSR. Subscriber's units of the agencies were located in the Main Press Centre and those of the broadcasters, in the OTVRC building. The SIMTA-80 terminals were installed in the press subcentre of the Yachting Centre in Tallinn and in the subcentres at the Grand Arena and the Palace of Sports of the Lenin Central Stadium, the Canoeing and Rowing Basin, the Olympiiski Indoor Stadium, and the Olympiiski Swimming Pool.

SIMTA-80 produced information in three languages—Russian, English and French—processed start lists, flashes and results, converted metres into feet, inches and fractions of inches, eliminated the necessity to correct the texts manually, displayed the data on the screen of television projection systems.

Despite a heavy data traffic and a great number of users, SIMTA-80 processed and rapidly distributed messages in real-time mode even at peaks of information input.

At the SIMTA-80 computer centre

# The Express Computerised Printing System

Based on the data supplied by ACS "Olympiad", the Express system published a daily bulletin called *Starts and Results* which contained start lists for the day and the previous day's results. It also printed the "Participants" and "Results" brochures.

The system was developed and operated by the Novosti Press Agency (APN). As a result of studies, conducted jointly by the APN, State Committee of the USSR Council of Ministers for Publishing, Printing and Book Trade, the Minpribor, and the OCOG-80, the Pagitron hardware and software were selected for the system. They were supplied by Helprint of Finland and Optronics International of the USA on a contractual basis. The Pagitron system was designed for automatic performance of main editing and printing operations, such as entry of data from magnetic tape, typesetting with any fonts, make-up and layout of texts and illustrations in a wide range of page formants, and transfer of composed pages on film to produce printing plates.

In order to produce the publications on schedule, the Klimsch Expressa photocopiers were used.

A special service was set up by the APN to operate the Express system.

The information about the results of competitions for the day to be used in the daily bulletin and brochures was accumulated by ACS "Olympiad" and was compiled on magnetic tape and printouts in the required sequence and formats. The printouts of the results lists in Russian and in a combined English-French version were handed over to representatives of the APN daily at 12.00 p.m.

The operating service of the APN had the printouts checked and delivered to the APN printer where make-up pages were produced. After that, the pages were used to produce printing plates with the aid of the Klimsch Expressa photocopying complex. The filmplates were then sent to the printer of the *Starts and Results* bulletin.

A total of 225,000 copies of 15 issues of the bulletin were printed from July 19 through August 3, 1980 (each issue was produced in 5,000 Russian copies and 1,000 English-French copies). The edition was delivered before 7.00 a.m. to competition sites, the Main Press Centre, the Olympic Village, hotels, and the ACS "Olympiad" building.

On the day when the Olympic Games were opened, the users received 10,476 sets of the "Participants" brochures (22 in each set) in Russian and 12,995 sets in English and French, totalling 515,482 copies.

On the day when the Games were closed, before 6.00 p.m. the users received 12,957 sets of the "Results" brochures (21 in each set) in English and French and 9,756 sets of brochures in Russian, 476,973 copies in all.

There were no breakdowns, no slowdowns, or reduction of data traffic to the users owing to full supply of all equipment, smooth operation of the hardware and software services.

As compared to the results system of the Games of the XXI Olympiad, ACS "Olympiad" had considerably greater capabilities. The functions included processing of entries for technical officials and horses, a wider variety of information materials, issue of original statistics about competitors, and creation of data interface with local results processing systems.

The entry of information for 13 sports was much more automated.

The data was printed out in three languages—Russian, English, and French.

The system made it possible to list and distribute partial results without waiting for the end of long competitions and to send out unofficial results without waiting for their official approval.

During the Games of the XXII Olympiad radically new for a results service were the high-speed reports about medal winners and record breakers as well as automatic tabulating of record-holders, medal-winners and champions, by sport, in particular.

An effective innovation of the system was an automatic translation of sports terminology or parts of the text to generate multilanguage documents with a single-language input.

Here are some comments on the operation of the computerised results service during the Games of the XXII Olympiad.

The *Washington Post* wrote that the Games were well organised. There were no technical problems with the holding and coverage of the competitions, predicted after the US and some other countries had refused to export equipment for the Olympics. A sophisticated computerised information system was perfect.

Thomas Kent, the chief of the Associated Press bureau in Moscow: "The Associated Press would like to express its gratitude for the fine SIMTA-80 results service which was produced by TASS for the Moscow Olympics."

"Our editors report that the system was highly efficient, and transmitted results as quickly as they were made available by the sports federations."

"The line feeding the results to us worked perfectly."

"We were particularly grateful that the system functioned in accordance with specifications, as we requested, and that the transliteration of Russian names was as we required."

"SIMTA personnel were cooperative at all times in responding to our questions and requests."

Mr. Boris Stancovic, the General Secretary of the International Amateur Basketball Federation (FIBA) wrote:

"The FIBA is grateful to the OCOG-80 for the provision of ACS "Basketball" for the Olympic basketball competitions. There had been nothing comparable to this system at any previous Games and it produced information very promptly."

"Such system greatly enhanced the quality of services provided for the competitions."

The high quality of the information services provided by ACS "Olympiad" was also noted by the President of the International Amateur Wrestling Federation, Milan Ercegan, by Mr. René Mercier, a technical delegate of the International Fencing Federation, by Mr. Sinan Erdem, a technical delegate of the International Volleyball Federation, and many others.

# Television and Radio Coverage

All the provisions made for broadcasting the Games of the XXII Olympiad had one common goal—to give an opportunity to people of all the countries in five continents possessing radio and television networks to receive a maximum of high-quality pictures and sound from the Olympic venues.

This called for an enlargement of the Moscow Television Technical Centre (TTC) in Ostankino, built as far back as 1967, then the biggest in Europe. Thus, the Olympic Television and Radio Complex (OTRC) was created. It transmitted simultaneously 21 television and 100 radio programmes from the Olympic venues in Moscow, Tallinn, Leningrad, Kiev, and Minsk. The coverage of the Games could be seen by an audience of 1.5 billion in all five continents.

Television coverage of the Games of the XXII Olympiad was organised and provided for by the USSR State Committee for Television and Radio Broadcasting and the USSR Ministry of Communications.

The equipment for the OTRC was supplied mainly by the Ministry of Communication Industry, the USSR Ministry of Communications, the USSR Gosteleradio, and some other government agencies and organisations.

In setting up the OTRC previous experiences of the organisers of the Games were taken into account. The developments in broadcasting technology expected for 1980 were also borne in mind. The OTRC concept was affected to some extent by the broadcasting facilities already in existence in Moscow and, particularly, by considerations for post-Olympic usage of the complex.

An analysis of television and radio coverage of previous Olympic Games had shown that, along with a steady increase in the number of programmes, requirements for their structure were also changing. The organisers of the Games in Moscow concluded that there was no point in packaging a general television programme for the whole world because viewers in different countries are interested mostly in their own teams and in competitions in sports traditionally popular in those countries. It was decided, therefore, to provide facilities enabling foreign television companies to prepare their own programming, to edit and finish their unilateral programmes on the spot in Moscow, and to telecast them, ready made, to their respective countries.

The OTRC was designed proceeding from the necessity:

— to organise high-quality telecasting of Olympic competitions from all the venues;

— to ensure extensive coverage of the Olympic Torch Relay, of the Opening and Closing ceremonies, and events of the Cultural Programme;

— to provide the best possible facilities to commentators for live coverage on venues;

— to provide facilities for a sufficient number of unilaterals packaged in accordance with the popularity of certain sports and participation of competitors from the country concerned;

— to place sophisticated, high-quality equipment at the disposal of broadcasters and to create conditions necessary for preparing, editing, producing and transmitting their programmes.

The OTRC which was established prior to the Games of the XXII Olympiad has fulfilled the tasks set. But it took a great deal of technology to equip it.

The OTRC comprised a new Olympic Television and Radio Centre (abbreviated OTVRC), the modernised TTC, broadcasting equipment (including TV mobile units) at the Olympic competition sites and at other locations covered by television, and communications systems and facilities essential for television transmissions—the Olympic Switching Centre (OSC) among them—as far as television and radio links were concerned.

An important and basic feature of the Television and Radio Complex of the Games of the XXII Olympiad was that it had been created to ensure further development of the Soviet domestic and international broadcasting. It continues to be effectively used after the Games.

The problem of equipping the OTRC with highly efficient technology was successfully solved due to the development of third-generation television devices in the Soviet Union, completed in 1976 and 1977, and rapid introduction of that equipment into commercial production. As a result, most of the equipment for the OTRC was manufactured and supplied by Soviet factories. At the same time, some foreign companies, too, took part in the supply of equipment for the OTRC. Foreign suppliers were selected taking into account efficiency of the devices to be delivered and previous cooperation with the company in question. The foreign suppliers included Hungarian enterprises, such as BEAG, "Mechanical Laboratory", and Hiradas-technika. They sup-

plied a high-quality audio equipment, sound tape recorders, colour television monitors, and other devices.

Traditional cooperation and joint development of the Soviet-French SECAM colour television system made a basis for placing a large order in France, including supply of switching and television production equipment by Thomson CSF. Kodak-Pathe supplied film-processing machinery. Ampex World Operations S.A. of the USA, a long-time partner of the Gosteleradio, signed an agreement with the OCOG-80 for supply of video tape recorders, television cameras, video tapes for the OTRC and undertook to send 100 of its maintenance crew to Moscow. The company, however, did not meet its commitments in full. Therefore, the OCOG obtained the required equipment and video tapes elsewhere and the maintenance for the equipment was provided by Soviet technicians.

The following data give an idea about the OTRC in Moscow:

| | |
|---|---:|
| Venues covered | 30 |
| Mobile television units on venues | 83 |
| Television cameras | 286 |
| VTRs | 233 |
| Slow motion VTRs | 30 |
| Commentator positions | 1294 |
| Television studios | 22 |
| Radio studios | 70 |
| Off-tube booths | 68 |

Thus, to expand the coverage of the Games and provide foreign TV corporations with an opportunity of selecting their programmes right on the spot in Moscow almost twice as much commentator positions, television cameras, and VTRs and three times more mobile television units in the vicinity of competition sites and other televised venues, was required compared to the ORTO complex in Montreal.

The OTVRC was located in a new building within 400 metres from the Ostankino TV Tower and 120 metres from the TTC building. The OTVRC was connected with the TTC by an underground passage. The inner space of the OTVRC building was about 300,000 cubic metres.

The OTVRC included three complexes, namely: television, radio, and film production. The ground floor of the OTVRC building housed the film production complex, the first and second floors—the television complex, and the third and fourth floor—the radio complex.

The television complex comprised:
— 16 programming units, each with a studio measuring 60 sq m;
— 3 special programme production complexes, each consisting of two control and studio units—one studio measuring 150 sq m and the other, 60 sq m;
— the switching and distribution room;
— the central television signal switching room;
— 3 programme sequence control rooms;
— 68 off-tube booths;
— the video-recording, playback, editing, and copying unit (VTR unit) equipped with 168 video tape recorders;
— the centralised telecinema unit equipped with 15 telecine machines;
— the sound recording, playback, editing and copying unit;
— a closed-circuit vision and sound control room;
— a control room for information programmes intended for commentators at competition sites;
— the quality control unit;
— some other support services.

The OTVRC's television facilities provided the following services: live coverage of competitions to the user country; live coverage calling from several venues via a programming unit and using technical facilities of the unit such as slow motion replay; direct video and sound recording from the venues in the VTR unit; packaging of unilaterals in a programming unit and recording of the finished programmes in the VTR unit using telecinema, tape pre-recordings, slow motion replay, and live coverage from arenas; composing of special television programmes by the OIRT, EBU, and NBC; off-tube commentaries mixed with video recordings, films, live pictures from arenas, or a ready programme being produced in one of the programming units; switching of 100 direct and off-tube commentaries and 21 prepared television program-

**Olympic Television and Radio Centre**

mes mixed with international sound (ambient sound) by the OSC.

A producer in a programming unit with the 60 metres studio was able to receive 10 different video signals from venues or programme storage units. Simultaneously, 16 sound commentary feeds were transmitted to the unit thus enabling the producer to compose a programme with simultaneous partici-pation of several commentators or interviewed athletes at the venues and an announcer in the television studio.

The Soviet television produced its programmes in the TTC building, ex-tensively renovated and modernised to considerably enhance its functional capabilities.

The TTC master control room switching facilities were based on two matrices: one for 150 input and 288 output circuits in three coordi-nates and controlled by a minicomput-er, and the other, linear one, for 50 inputs and 64 outputs.

The switching and distribution equipment room, in addition to usual switching of commentator and chain links, was capable of group switching of several commentator channels and communication links from one to another.

The radio complex included:
— 70 radio programming units, each comprising a voice broadcasting studio of 25 sq m, an equipment room, and a utility room;
— master switching and distribu-tion room;
— 2 radio commentary recording rooms;
— 5 radio playback rooms;
— a sound-track copying unit;
— 30 editing rooms;
— 2 quality control rooms;
— a recording room for commen-taries by telephone;
— the radio broadcasting control unit;
— a production department con-trol room;

**Master control room**

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— basic and operative sound recording libraries;

— intercommunications;

— some other support services.

The OTVRC's radio complex provided the following services: live coverage calling from several venues via a radio programming unit using technical facilities of the unit, announcer's text, stored recordings, etc; live coverage from venues to the user country; recording of programmes transmitted from venues in the sound recording rooms or in programming units; recording of programmes produced in a programming unit, using facilities of that unit; transmission of recorded programmes to users from the programming units, playback rooms, and editing rooms; editing, monitoring, and rerecording of audio tapes in editing rooms and programming units, including rerecording from reporter's tape recorders and discs;

copying of audio tapes in the duplicating unit; recording of information from city telephone lines in the telephone recording room.

The film production complex had:

— 3 high-speed developing machines with support services;

— 10 sound recording rooms;

— 45 editing rooms;

— 5 screening rooms.

The film production complex provided the following services: processing of 16 mm and 8 mm colour reversible films; 35 mm colour slide processing; printing of 16 mm colour film material with electronic colour control, photographing of titles, transfer of sound tracks from 6.25 mm tapes to perforated 16 mm tapes; scoring and dubbing of films; rerecording of 16 mm audio tapes; editing on sound editing turntables; viewing and monitoring of films using a closed television route.

**Programming unit**

**Video-recording room**

**Television Complex**

| | |
|---|---|
| Studio | Rear projection |
| Telecinema | njection of inscriptions |
| Production room | Colour background |
| Equipment room | Special effects |
| TV programming unit | |

Central telecine unit

15 projectors

Radio Complex

Central
Switching Room

Radio
programming unit

Tape-editing
rooms

Programme-
recording and
playback unit

Users

Film Production Complex

Video recording

Video editing

Slow motion

Documentation

Central
Video-Recording Unit

**Master Control Room**

Matrix A

50 input and
60 output channels

Matrix B

150 input and
288 output channels

Closed-circuit
24-channel television
network unit for
500 subscribers

To outlets

Off-tube unit

68 booths

Routing control
room for
information
programmes

Routing control
room for finished
programmes

20 finished television programmes

9 information on-the-air programmes

Olympic
Switching Centre

To outlets

Television
programme
distribution room

Cine cameras

Mobile television stations

Television cameras

T S U

NBC

Correction cabinet for mobile

Television stations

Television equipment room

Slow-motion control room

Television and radio signal control room

Scoreboard control room

Timing control room

Communications room

International sound room

Commentator consoles

Microphones

Sports facilites

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# Television and Radio Technical Facilities on Venues

Broadcasting technical facilities were installed at all competition sites, in the Main Press Centre, and the Olympic Village.

The venues can be divided into three categories according to broadcasting and communications facilities available:

— integrated into complexes with links to the OSC (total of 15 venues);

— single sites with links to the OSC (10 venues);

— single sites with no links to the OSC (1 venue).

The sites of the first category had integrated systems of television programme distribution (STPD) and communications with the OSC. This increased the number of the STPD programmes available to the media by including programmes from adjacent venues, ensured more efficient use of communications facilities and reduced the amount of standby devices required.

The sites of the first and second categories were equipped with all necessary facilities for live coverage to the OTVRC.

Vision and sound at the third-type site (Dynamo Shooting Range) were recorded on tapes to be delivered to the OTVRC.

Coverage from the venues was based on the following concept: creation of international picture and sound (one or several depending on the number of competitions staged simultaneously in each sport), packaging of unilaterals for major television networks (USSR, USA, GDR, Hungary, Japan, Great Britain, and some others), production of interview programmes, and national voice commentaries.

Typical competition site technical facilities for electronic coverage included TV mobile units, VTR mobile units, a slow motion replay area, portable TV cameras, telecine chains, and a TV equipment area comprising the main close-circuit television station, and an interview studio.

Auto-cameras were used to give live television coverage of walking, marathon, cycling 100 km team trial, rowing and canoeing races and some other events in action. One portable camera was installed in a helicopter and transmitted signals on a relay circuit to a TV mobile unit during cycling road race and the 100 km team trial. A similar camera was installed on a vessel running along the Moskva River to cover the 20 km and 50 km walking and marathon events whose routes were laid on the river embankments.

Interview studios were arranged at the sites of the most popular sports that had attracted competitors from many countries. They included the Grand Arena and Palace of Sports of the Central Lenin Stadium, the Olympiiski Indoor Stadium and Swimming Pool, and the Velodrome.

The following equipment was installed at the televised Olympic sites (see table 1 on page 158).

Power lighting systems were installed at all the venues to ensure the required conditions for colour pictures irregardless of the time of day and weather.

A particular stress was laid on providing the best possible facilities for representatives of the electronic press.

To this end, commentator positions were specially built on the stands. Each position consisted of a desk with two television monitors and an audio console. The position was designed for two commentators working simultaneously for one channel. The audio console had two microtelephone headsets and allowed to report and to switch different audio signals separately to the right and left headgear to listen to the international sound, voice feedback from the broadcasting centre, engineering and producer's communications, link with the country concerned, signals from the stadium's public address system, sound track of the television programme switched on the television monitor, etc. An extension microphone for interviews or a tape recorder for commentary recording could be also plugged in. A telephone set connected to the international network equipped with a calling light was installed at each commentator position.

The televised Olympic venues had a total of 1,294 commentator positions, including 1,214 positions in Moscow and 80 positions in other cities, as well as 1,146 positions equipped with tables and television monitors for the writing press.

Thirty-two-cm colour television monitors were connected to a special System of Television Programme Distribution (STPD) where 13 to 25 programmes were entered at different sites. They included 12 programmes transmitted from the OTRC on the air and all the television programmes by sport produced at the sites, ranging from 1 to 13.

Eight additional transmitters (2 metre-band and 6 decimetre-band transmitters) were switched on in the Ostankino TV Tower for the period of the Games. They transmitted information to the competition sites. In addition, an educational channel—one of the four metre-band channels used by

| | |
|---|---|
| **TSU** ■ | USSR TV camera |
| **NBC** ■ | NBC TV camera |
| ■ | TV camera |
| 🏃 | Portable TV camera |
| ▭ | Possible TV camera position |
| 🏃 | Portable cine camera |
| ✻ | Cine camera |
| ▨ | Interview area |
| ⊕ | Microphone |
| Ⓟ TV | TV vehicle parking |
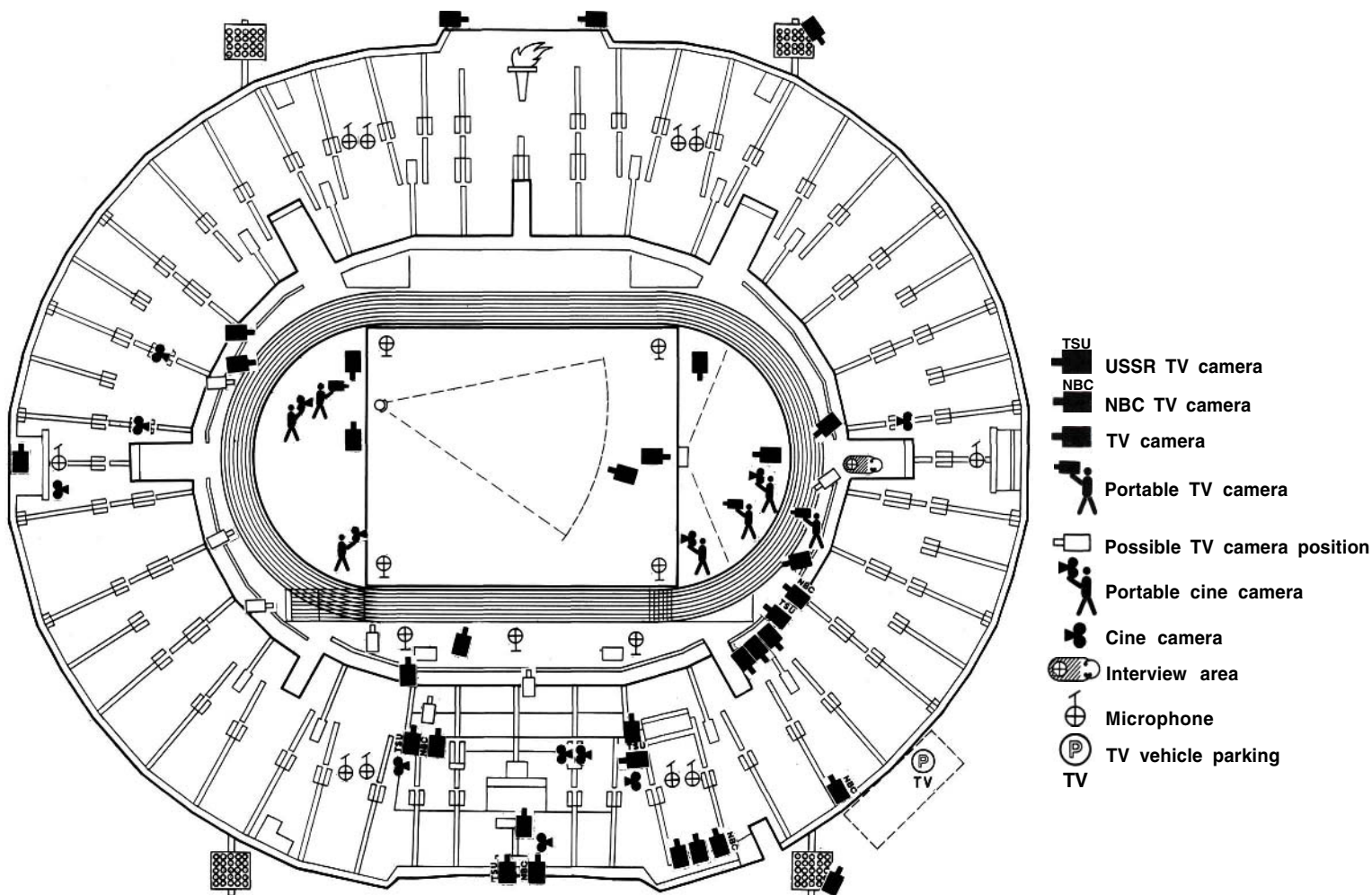
the Moscow Television Network—was available for an information programme.

Thus 12 air channels carried the following transmissions during the Games:

— 3 programmes of the USSR Central Television Network including around 20 hours of the Games coverage in addition to regular telecasts;

— 2 information programmes covering highlights of each day which were scheduled by the Gosteleradio USSR, on the eve for all days of the Olympics. The programmes contained the international pictures and the international sound and were not accompanied by commentaries.

— 4 assigned and 3 booked private channels subscribed to by the OIRT, EBU, TV Asahi, and other broadcasters to be used for vision feedbacks to commentator positions on venues.

A commentator at his desk was able to select, for example, the programme to report on and simultaneously to watch other events in the same or other sports at the same or other sites. He also could watch the programmes of major broadcasters. Besides, special programmes from the ACS "Olympiad" data-processing complex were transmitted to the television

monitors at the athletics and yachting competition sites.

The following selection of pictures was provided for commentators and the written press at the venues:

| | |
|---|---|
| The Lenin Central Stadium | 25 channels |
| The Olympiiski Sports Complex | 20 channels |
| The sites in Krylatskoe | 16 channels |
| The CSCA Sports Complex | 21 channels |
| The Dynamo Stadium | 17 channels |
| Other venues | 13 channels |



**Television cameras in operation at the Opening Ceremony**

Table 1.

| Venue | Mobile TV units | Port-able TV came-ras | Slow motion VTRs | Prog-ramme produc-tion equip-ment | Commen-tator units | Closed--circuit VTRs |
|---|---|---|---|---|---|---|
| Grand Arena, Lenin Central Stadium | 9 | 3 | 4 | 7 | 176 | 833 |
| Minor Arena, Lenin Central Stadium | 2 | 1 | 1 | 2 | 33 | 110 |
| Palace of Sports, Lenin Central Stadium | 6 | 3 | 4 | 6 | 132 | 393 |
| Swimming pool, Lenin Central Stadium | 3 | — | — | 2 | 22 | 73 |
| Druzhba Arena, Lenin Central Stadium | 1 | — | — | 1 | 30 | 86 |
| Canoeing and Rowing Basin | 5 | 1 | 1 | 2 | 72 | 249 |
| Dynamo Shooting Range | 1 | — | — | 1 | — | — |
| CSCA Sports Complex | 6 | — | 3 | 5 | 66 | 233 |
| Olympic cycling circuit | 4 | 1 | — | 1 | 40 | 61 |
| Olympic archery field | 2 | 1 | — | 1 | — | — |
| Sokolniki Palace of Sports | 1 | — | — | 1 | 30 | 104 |
| Izmailovo Palace of Sports | 2 | 1 | 1 | 2 | 44 | 145 |
| CSCA Palace of Sports | 2 | — | — | 2 | 33 | 106 |
| Dynamo Palace of Sports | 1 | — | — | 1 | 24 | 77 |
| Dynamo Central Stadium | 3 | — | — | 1 | 32 | 93 |
| Dynamo Minor Arena | 2 | — | — | 1 | 17 | 65 |
| Young Pioneers Stadium | 1 | — | — | 1 | 16 | 41 |
| Olympiiski Indoor Stadium | 7 | 2 | 3 | 5 | 158 | 478 |
| Olympiiski Swimming Pool | 6 | 2 | 3 | 5 | 139 | 426 |
| Olympic Velodrome | 5 | — | 1 | 3 | 50 | 180 |
| Trade Unions Equestrian Centre | 9 | 1 | 1 | 3 | 64 | 271 |
| Main Press Centre | 1 | — | — | 1 | 12 | 234 |
| Olympic Village | 4 | — | — | 1 | — | — |
| Cycling route on Minsk Highway | 3 | 1 | — | 1 | 24 | 52 |
| Walking course | 4 | — | — | 4 | — | — |
| Marathon course | 7 | 1 | — | 7 | — | — |
| Kirov Stadium in Leningrad | 2 | — | 1 | 1 | 20 | — |
| Republican Stadium in Kiev | 2 | — | 1 | 1 | 20 | — |
| Dynamo Stadium in Minsk | 1 | — | — | 1 | 20 | — |
| Yachting Centre in Tallinn | 2 | 2 | — | 1 | 20 | — |

The System of Television Programme Distribution embraced also all press subcentres, VIP lounges, technical officials' rooms, offices of the IFs and the OCOG-80 at the venues. Apart from the competition sites, the system had outlets in the Main Press Centre, OTRC, TTC, and the ACS "Olympiad" building.

About 5,000 television monitors, including more than 500 sets in the OTVRC, were connected to the closed-circuit television network.

Timetables of the two information programmes and lists of assigned channels in the closed-circuit system in Russian and in English were deli-

Table 2

### Timetable for On the Air Information Programmes of the STPD on July 24, 1980

| Switch position | Programme (sport) | Time |
|---|---|---|
| | On-air programme | |
| $R_8$ | Information Programme I | |
| | 1. Equestrian. Three-day events | 9.00-12.00 |
| | 2. Water polo. Finals | 12.00-13.40 |
| | 3. Rowing. Semi-finals | 13.40-14.30 |
| | 4. Basketball | 14.30-15.00 |
| | 5. Weightlifting | 15.00-17.00 |
| | 6. Modern pentathlon. Cross-country running | 17.00-17.30 |
| | 7. Water polo. Finals | 17.30-19.00 |
| | 8. Cycling. Semi-finals. Finals. Sprint | 19.00-20.00 |
| | 9. Weightlifting. Group A | 21.00-21.30 |
| | 10. Swimming. Finals | 20.00-21.00 |
| $R_7$ | Information Programme II | |
| | 1. Rowing. Semi-finals. Women | 10.00-11.00 |
| | 2. Swimming | 11.00-11.30 |
| | 3. Rowing. Semi-finals | 11.30-14.00 |
| | 4. Target Shooting. | 14.00-14.30 |
| | Skeet | 14.30-15.00 |
| | 5. Fencing | 15.00-16.00 |
| | 6. Weightlifting | 16.00-17.00 |
| | 7. Hockey | 17.00-18.00 |
| | 8. Boxing—preliminary bouts—54, 63, 67, and 81 kg | 18.00-18.30 |
| | 9. Volleyball | 18.30-19.30 |
| | 10. Weightlifting | 19.30-20.30 |
| | 11. Handball USSR-Cuba, Pool A | 20.30-21.00 |
| | 12. Fencing. Foil. Finals. Women | 21.00-22.00 |



**Commentator's headgear**

Table 3

### Assigned Channels in the STPD System at the Sites of the Lenin Central Stadium

| Switch position | Programme (sport) | Time |
|---|---|---|
| | On-air programmes | |
| $R_1$ | TSU-1 (TV USSR) | 8.00-23.00 |
| $R_3$ | TSU-2 (TV USSR) | 19.00-23.00 |
| $R_4$ | Booked channel | 10.00-22.00 |
| $R_5$ | Intervision M | 10.00-22.00 |
| $R_6$ | Private channel, TV GDR | 10.00-22.00 |
| $R_7$ | Information Programme II | Specially sche- |
| | | duled daily |
| | | during the |
| $R_8$ | Information Programme I | Olympics |
| $R_9$ | Booked channel | |
| $R_{10}$ | Eurovision IM | 10.00-22.00 |
| $R_{11}$ | TSU-4 (TV USSR) | 10.00-23.00 |
| $R_{12}$ | Booked channel | 10.00-22.00 |
| | Private channel, TV Asahi | 10.00-22.00 |
| | **Closed-circuit programmes** | |
| $H_{10}$ | International water polo programme | |
| | Swimming pool | |
| $M_8$ | International volleyball programme | |
| | Minor Arena | |
| | International volleyball programme | |
| | Druzhba Arena | |
| $M_5$ | 1 International programme for gymnastics | |
| | for judo (from July 27, 1980) | |
| $M_6$ | 2 International programme for gymnastics | |
| | for judo (from July 27, 1980) | |
| $M_7$ | 3 International programme for gymnastics | |
| $M_{13}$ | "Gymnast 2" information channel | |
| $M_2$ | 1 International programme for athletics, | |
| | football, equestrian sports (Aug. 3, 1980) | |
| $M_3$ | 2 International athletics programme | |
| $M_4$ | 3 International athletics programme | |
| $H_{12}$ | ACS "Olympiad" | |
| $H_{13}$ | ACS "Olympiad" | |

vered daily to all the outlets of the STPD. The schedule of information programmes for July 24, 1980 (Table 2) and the assignment list for the STPD channels at the sites of the Lenin Central Stadium (Table 3) are shown below as an example. One of the 25 channels at the stadium was assigned to the NBC. The total edition of the timetable and assignment list leaflets distributed to users amounted to 120,000 copies.

Apart from the STPD, each venue was equipped with systems for reception of regular network telecasts, including all the programmes transmitted by the Moscow Television Centre on the air. The following regular television outlets were installed at the competition sites and other Olympic venues (see Table 4).

Table 4

| Venue | Outlets |
|---|---|
| Lenin Central Stadium: | |
| Grand Arena | 18 |
| Minor Arena | 10 |
| Swimming pool | 10 |
| Palace of Sports | 11 |
| Druzhba Arena | 13 |
| Dynamo Central Stadium | 8 |
| Dynamo Minor Arena | 11 |
| Dynamo Palace of Sports | 10 |
| Dynamo Shooting Range in Mytishchi | 17 |
| Olympiiski Indoor Stadium | 19 |
| Olympiiski Swimming Pool | 18 |
| CSCA Sports Complex | 19 |
| CSCA Palace of Sports | 8 |
| Canoeing and Rowing Basin | 14 |
| Olympic Velodrome | 12 |
| Cycling circuit | — |
| Olympic archery field | 8 |
| Trade Unions Equestrian Complex | 16 |
| Young Pioneers Stadium | 9 |
| Sokolniki Palace of Sports | 10 |
| Izmailovo Palace of Sports | 11 |
| Main Press Centre | 126 |
| Olympic Village (without living quarters) | 310 |
| ACS "Olympiad" building | 21 |
| OCOG buildings | 36 |

In conjunction with the Gosteleradio of the USSR and the USSR Ministry of Communications, the OCOG regularly discussed with broadcasters matters related to technical facilities for the Games of the XXII Olympiad. Comments and requests voiced at these meetings were duly noted and met, which made it possible to provide most favourable conditions for radio and television coverage of the Games by the electronic press.

During the finals of the VII USSR Summer Spartakiade, one year before the Games, there was a comprehensive trial run of the Olympic Television and Radio Complex, including the Olympic Television and Radio Centre. Ten Olympic venues in Moscow were fully equipped with television and radio technology. 20 mobile television units were engaged. One third of the equipment had been put into operation in the Olympic Television and Radio Centre. In addition to Soviet broadcasters, the finals of the USSR VII Summer Spartakiade were covered by the EBU, OIRT, TV Asahi, and other companies. This made it possible to discover some drawbacks in the broadcasting system and to eliminate them in time. The OTRC was tested on a full scale in early 1980. Trial operation of the systems and training of service personnel occupied the time left till the Games. About 8,000 persons were employed during the Olympics. Some foreign broadcasters organised trial telecasts of some competitions staged in Moscow immediately before the Games.

All this helped to get prepared for coverage of the Games as best as possible. R. Barrows, a representative of British television, pointed to the fact that he had not seen such technical facilities and so high a degree of technical organisation at any previous Olympics where he had been.

Sixty-seven television organisations in 58 countries and 56 radio organisations in 47 countries received coverage of the Olympic Games.

Total coverage by foreign broadcasters included:
— television, about 6,000 hours;
— radio, more than 8,000 hours.

In the Soviet Union, the Games were broadcasted daily on surface and satellite links by the Central Television Network in 5 programmes and by All-Union Radio in 6 programmes. The total television coverage was 710 hours and radio coverage was 940 hours.

Bill Ward from Great Britain, who headed the EBU Operations Group, thus commented on the operation during the Games in Moscow: "Eurovision fronts for more than 50 European television and radio companies. The Olympic Games in Moscow have been a major event for all European countries and all members of Eurovision, with the exception, perhaps, of the FRG, provided extensive radio and television coverage of the Games."

"All the necessary conditions for the functioning of the electronic media were provided in Moscow. Working was pleasant—we were surrounded by wonderful people, full of good will and always happy to help. I have been to all the Olympics, starting from the London Games, and Moscow

shows up well in comparison with the others. I'm not talking about the minor problems, which always arise."

"We were given two international channels to broadcast Eurovision programmes. In the evening, one of them was assigned to broadcasting to individual countries. In addition, we had one other channel, which broadcast national programmes compiled by the television and radio companies of Eurovision's member countries, taking into account the interest of the audience. These companies made their own films, held interviews and reported on those sports contests which were not covered on the international channels. During the Games on the two international channels alone we broadcast programmes for a total of 320 hours."



**Commentator desk at the boxing hall of the Olympiiski Indoor Stadium**

**Television mobile unit at the Canoeing and Rowing Basin in Krylatskoye**

**Television camera on a boom**

# Telecommunications
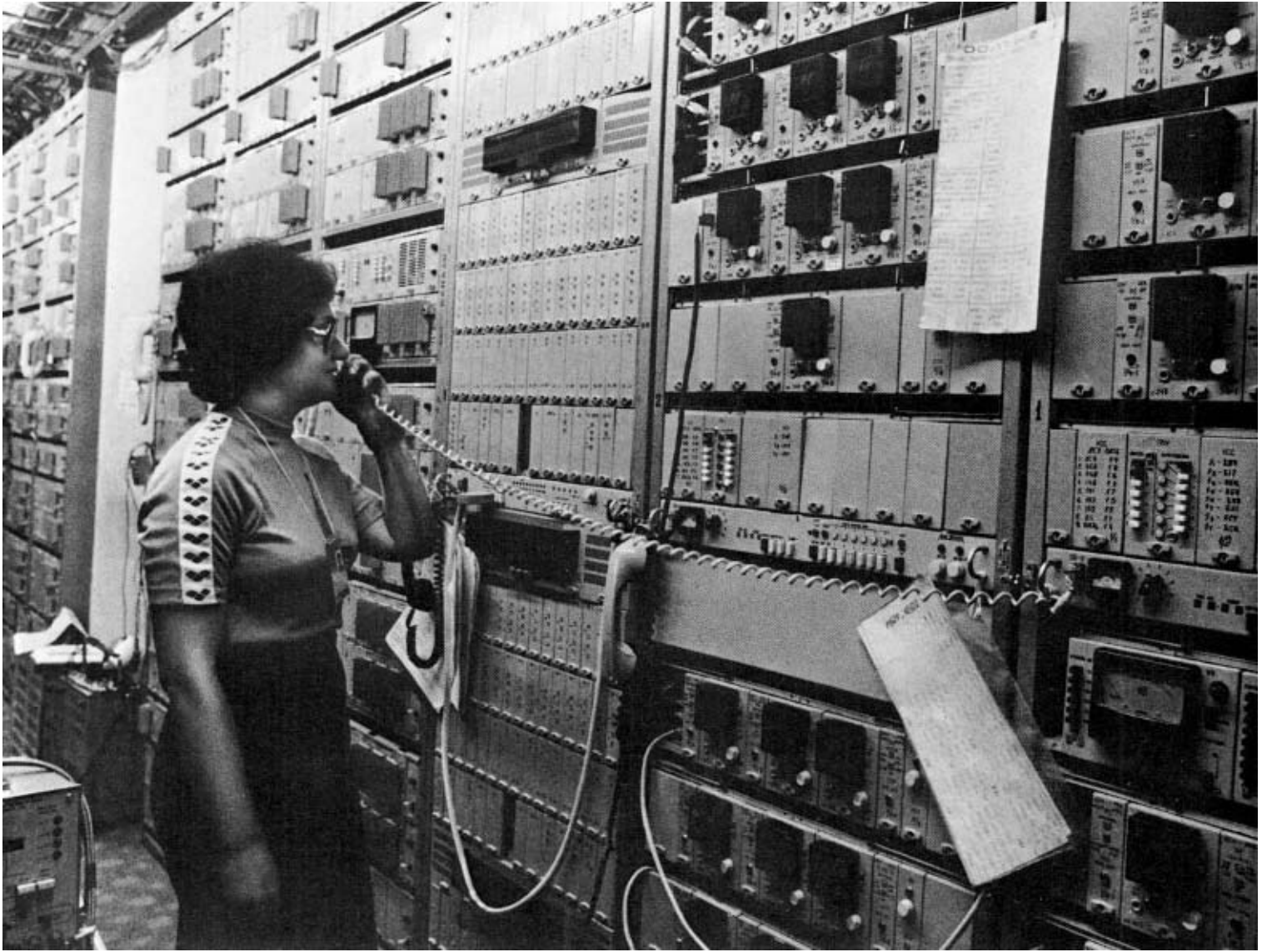
Communications facilities at the Games of the XXII Olympiad were designed for television, radio, and commentator links from venues and for transmitting television and radio programmes. All types of telecommunications and post were also provided for participants, guests, the written and electronic press in Moscow, Tallinn, Leningrad, Kiev, and Minsk.

To this end, a maximum use was made of the existing communications facilities, which were modernised, and new facilities were constructed. The following had been completed by the Games: the Olympic Switching Centre for routing and transmission of signals from the venues all over the Soviet Union and abroad, some telephone exchanges, an international telephone exchange, and an international telex station. Cable and relay trunks were also renovated, and satellite links set up.

A new long-distance telephone exchange was put into service in Tallinn before the Games.

Valuable experiences of organisers of communications at the Games of the XX and XXI Olympiads were drawn on at all the stages of preparing and operation of the communications facilities. This experience has shown that provision of communication services separately to each category of customers gives the best results.

Therefore, planning of types and scope of communication services, selection of technology, renovation of existing and construction of new communication installations were guided by the following objectives:

— to provide communications for the organisers of the Games and for the IFs to administer the preparations for and staging of the Olympics;

— to accommodate the needs of the media to a maximum;

**Communications equipment room at the Central Lenin Stadium**

**Communications point of the Control Centre at the OSC**

— to provide communications to the participants, VIPs, tourists, and spectators at all Olympic sites;

— to ensure that the communication equipment and installations would be made the most of by the national economy after the Games.

Now that the Games of the XXII Olympiad are over, we can say definitely that the concept of separate services to customers has been a complete success.

The provision of communications for the Games of the XXII Olympiad covered the following areas:

— broadcasting;

— telegraphy;

— international and intercity telephone service;

— city and intercommunication telephone service;

— the OCOG's assigned telephone service;

— radio communications;

— sound amplification, public address, and simultaneous interpretation;

— alarm and electric clock systems;

— post (described in Chapter XIV "Services and Tourism").

A far-flung network of international and intercity trunk and satellite lines provided for broadcastings, telephone, telegraph, and facsimile communications, and data links in the data-processing system.

The sound-amplification public address, alarm, and electric clock systems were created anew at the facilities being built or modernised, using standardised equipment to accommodate the need for their centralised maintenance.

Common unified integrated networks were used to transmit information both at the venues and outside them.

## Broadcasting





To broadcast the 1980 Olympics the following number of international channels was established: 21 television channels, 100 audio commentator, and 100 radio channels.

The television channels included 8 channels in the Intersputnik satellite-communication system, 7 channels in the Intelsat satellite-communication system, and 6 channels in the cable and relay lines.

Television and radio signals were routed to the OSC from all the Olympic venues. 59 basic r. f. channels were derived to carry the signals from competition sites, the Main Press Centre, and the Olympic Village in Moscow. Each basic r. f. channel included one vision and four audio top class channels. In addition, television and radio signals were routed to the OSC from Tallinn, Leningrad, Kiev, and Minsk along trunk lines. To televise the Olympic Torch Relay, appropriate television and radio signals were transmitted to the OSC in Moscow from certain points passed by the Torch. The signals were transmitted from the OSC to the OTVRC to be used in the production of programmes. Ready programmes were transmitted back to the OSC to be routed to all the continents. Vision and sound were constantly monitored in special quality-control rooms of the OTVRC and OSC.

**A receiving dish for television signals from the Olympic sites, installed on the roof of the OSC**

**The main programming and technical coordinator's room for continuous vision and sound-quality control**

# Telegraphy

When the communications pattern for the Games of the XXII Olympiad was devised, it was decided to make extensive use of facsimile transmissions to provide better service for the media.

As a result, 146 facsimile machines were installed at the Main Press Centre and subcentres to provide direct communications with the offices of news agencies and newspapers equipped with the required receiving apparatus. At the same time, facsimile equipment was used to transmit information from subcentres to the collection and processing station at the Central Telegraph Office in Moscow. The information was then sent to foreign subscribers on the telex network. The international facsimile service used automatically switched telephone circuits.

Besides, teleprinters connected to the international telex network were provided in subcentres as an extra service. Sintra-S-100 videotones were added to them at the Main Press Centre. After a communication technician set up a connection with the wanted party, a journalist could send his report himself using the videotone screen to correct the text.

The telegraph office in the Main Press Centre had 20 facsimile machines and 109 teleprinters.

News agencies accredited at the Main Press Centre rented the teleprinters. The same arrangements were offered to broadcasters and commentators accredited at the subcentre of the OTVRC.

The facsimile service used Soviet-made equipment and Infotec 6000 machines supplied by Kalle Niederlassung der Höhst of the FRG, which was the official supplier of the Games of the XXII Olympiad.

Additional switching capacities were put into operation in a new building of the Central Telegraph Of-

**Cable messages collecting point at the Central Telegraph Office**

**Teleprinter room at the Main Press Centre**

fice in Moscow by the start of the Games to expand the existing telex station.

The telex network had included the Games Control Headquarters, the OCOG departments, the OTRC control centre, operations support centres in hotels and operations centres for competitions in Tallinn, Leningrad, Kiev, and Minsk.

Facsimile communications were also organised between the Games Control Headquarters and operations centres for competitions in Moscow.

Foreign news agencies and other media leased 45 telephone and 16 telegraph channels, and 27 international telex lines, all terminating in their offices.

To provide various cities of the Soviet Union with information about the Games and other events in the shortest time possible, national news-

papers were transmitted from Moscow to 40 cities using phototelegraphy.

Over 35,000 messages, including 21,266 from Olympic venues, were telegraphed during the Games. 11,085 telexes totalling 33,981 pages had been sent, among them 5,994 telexes on 19,275 pages from the Main Press Centre and 2,651 telexes on 6,562 pages from venues.

80 per cent of the total of telegraph messages were sent via the Main Press Centre and the subcentre in the Rossiya Hotel. Peak loads of the message processing and telex connections in those centres were reached between 8.00 and 11.00 p.m.

3,482 telex and facsimile connections with a total duration of 39,672 minutes were provided to journalists for their own use; 1,355 of them were facsimile connections which lasted for a total of 13,468 minutes.

# Intercity and International Telephone Service





All kinds of customers used long-distance telephone very extensively.

Thus, telephone call offices were set up for the media at the Main Press Centre (81 booths) and at the sub-centres (over 500 booths). In addition all the Olympic venues were provided with pay long-distance telephones. Members of the written and electronic press were able to connect to the international and intercity networks from the city telephones installed on their positions at the venues or at their hotels.

The news agencies could lease, on request, unswitched circuits.

Competitors and other team members could use the long-distance telephone networks from call offices at the Olympic Village and at post offices on venues.

Officials and tourists could connect to the international and intercity telephone networks using city telephones installed in their rooms, public call-box service, and pay telephones at post offices of their hotels.

376,020 telephone conversations were held during the Games. Of these, 219,336 or 58 percent had been booked. The reason for such extensive usage of bookings was that many customers used credit cards of the International Telecommunications Union or collect calls.

The calling telephone connections were mainly set up within 15 minutes. Any delays that occurred generally fell on the collect call category or were due to transit through third countries.

Peak loads in the calling traffic at the Main Press Centre and the sub-centre of the Rossiya Hotel were from 7.00 to 11.00 p.m.

There were no complaints on the telephone communications.

To monitor the progress of the Olympic Torch Relay, communications were maintained between the escorting motorcade and the ceremonial coordination centre in the ACS "Olympiad" building. From Greece and Romania, the telephone connections were set up from cities and towns on international circuits using booking services.

As the relay crossed Bulgaria, the motorcade communicated directly with the coordination centre. For this purpose, the leaders of the motorcade contacted Sofia by radio and then were connected with the coordination centre on international circuits.

The communication was organised in a similar way inside the Soviet Union. Changeover from radio to a wired service occurred in capitals of the regions being crossed by the relay at the moment.

All the communications in the Olympic Torch Relay circuit were recorded on tape by the coordination centre. The tape recorders switched on automatically when signal passed through the line and the recording could be automatically transferred to a standby machine if the main one failed.

**Post office for the Olympic Village in Vernadsky Avenue**

**At the long-distance telephone exchange**

171

Switch room of the international telephone exchange

The international and intercity telephone exchange in Butlerov Street

Call office at the Grand Arena of the Central Lenin Stadium

Operations room of the international Post-Office

# City and Intercom Telephone Circuits

Competitors and team officials were provided with intercom telephones installed at their apartments in the Olympic Village. They could also use pay city telephones at the competition sites. When necessary, on request from chefs-de-mission, the apartments in the Olympic Village were connected to the city and international networks. Chefs-de-mission were provided with intercom telephones connected to the city and international circuits.

All officials (IOC members, IF and NOC leaders, jury members, etc.) and distinguished guests could use city telephones installed in their rooms and VIP lounges at the competition sites.

Journalists, broadcast commentators, photographers, and cinecameramen were offered city telephones installed at the Main Press Centre and at their positions in press boxes and commentator booths.

The OCOG staff and employees of organisations participating in the preparation and staging of the Games had city telephones at their work places or used sets of the UHF radio system installed in service vehicles.

Tourists to the Games of the XXII Olympiad used city telephones in their hotels.

In addition, all the venues were equipped with sufficient number of pay telephones to be used by all types of customers.

All in all, over 30,000 city telephones operated at the venues during the Olympic Games, 1,700 of them installed in press boxes (528 for the written press and 1,172 for the electronic press). 15 thousand telephone circuits and 3,200 hot lines were derived.

Besides, various administration services were provided with intercom telephones.

The number of city telephones (users) and telephones of intercom exchanges at the competition sites is shown in Table 5.

An Olympic telephone inquiry service was set up to help users of the city telephone network. The inquiries were answered in Russian, French, English, German, or Spanish. A telephone directory in Russian, French, and English had been issued and widely distributed by the start of the Games.

To ensure rapid and reliable communications between all the OCOG departments and services, the Games Control Headquarters, operations centres for competitions and support, as well as participating organisations, an Olympic Assigned Telephone Exchange (OATEX) for 3,000 numbers

Table 5

| Venue | Telephones | |
|---|---|---|
| | City | Intercom |
| Lenin Central Stadium: | | |
| Grand Arena | 917 | — |
| Minor Arena | 196 | — |
| Swimming pool | 189 | — |
| Palace of Sports | 390 | — |
| Druzhba Arena | 194 | — |
| Dynamo Central Stadium | 149 | 55 |
| Dynamo Minor Arena | 182 | 37 |
| Dynamo Palace of Sports | 152 | 165 |
| Dynamo Shooting Range in Mytishchi | 66 | 100 |
| Olympiiski Indoor Stadium | 597 | 529 |
| Olympiiski Swimming Pool | 467 | 366 |
| CSCA Sports Complex | 360 | 278 |
| CSCA Palace of Sports | 176 | 116 |
| Canoeing and Rowing Basin | 267 | 195 |
| Olympic Velodrome | 263 | 190 |
| Cycling circuit | 103 | 27 |
| Olympic archery field | 67 | 41 |
| Trade Unions Equestrian Centre | 377 | 137 |
| Young Pioneers Stadium | 75 | 68 |
| Sokolniki Palace of Sports | 158 | 65 |
| Izmailovo Palace of Sports | 191 | 120 |

(without connection to the city circuits) was set up.

Of the above number of users, 746 were assigned to the operations centres for competitions, 405 to the OCOG departments in the OCOG buildings, 65 to the Main Press Centre, 82 to the OTRC, and 83 to services in the Olympic Village.

Apart from that, a special system was established for communications of the Headquarters with the operations centres for competitions in Moscow, Tallinn, Leningrad, Kiev, and Minsk and directly with some parties in Moscow. The system comprised 27 communication centres of venues, two communication centres in Tallinn and one centre each in Leningrad, Kiev, and Minsk. The hot-line system of the Headquarters included 995 users, 78 of them in ministries, government agencies, and organisations. The control centre of the Headquarters system was located in the ACS "Olympiad" building and was connected with the communication centres and direct parties with 103 circuits and 423 hot lines.

Similar networks were created at the venues to be used by the operations centres for competitions.

The Chief Producer of the opening and closing ceremonies on the Grand Arena of the Lenin Central Stadium was provided with a network which reliably connected him and his assistant with the sound director, announcers, Scoreboard operators, dressing room attendants, artistic lighting operators, stadium services, etc.

The producer's console was connected to the city network, OATEX,
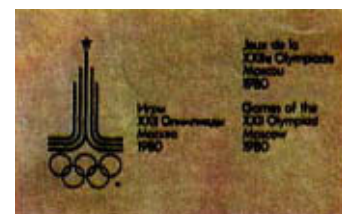
and the Headquarters hot line system.

A unified system of telephone colours was introduced for the users' convenience as follows: yellow for city telephones, green for intercom, combined yellow and green for intercom telephones connected to the city network, red for the OATEX telephones.

All the telephone circuits described above operated well during the Games.

The following radio systems were provided for the Games of the XXII Olympiad:

— radiotelephone communications with service vehicles;

— paging;

— simplex radio transmission.

Radiotelephone sets were installed in 908 vehicles in Moscow and 130 vehicles in Tallinn. This type of communications was provided for the OCOG top officials and staff, technical officials, and executives of the organisations engaged in the provision of services for the Games.

Some users could call any party of the city exchange by dialing an eight-digit number, and any vehicle of their system by dialing a four-digit number. By dialing a two-digit number, all other parties to this system contacted a controller who set up connection with other parties of this system, with parties subscribed to the city and OATEX networks. The controller could call a group of subscribers at once or to connect them to these networks.

In addition, Tallinn had a separate radio system for ACS, whose users were located on boats serving the Regatta and entered the competition results into the data-processing system.

Paging systems supplied by the Multitone company of Great Britain operated in Moscow and Tallinn. It was used by 3,000 persons in Moscow and 400 persons in Tallinn. The paging system was provided for the management of the OCOG and some organisations engaged in providing services for the Games.

The paging system could transmit 4 tone and 10 digit signals to a recipient, thus forming 40 coded commands. Some commands were common for all and the rest were coded for specific subscriber's networks. The paging central message desk had an easily-remembered serial telephone number and was equipped with dictophone machines to record voice messages lasting for up to two minutes. Having received a certain command, the person contacted called the central desk by telephone, stated his/her number and listened to the information transmitted, if necessary several times.

105 simplex radio operations using the equipment supplied by Storno of Denmark were organised in Moscow. These radio communications were designed for managers of the most important services of the Games and persons who had to move about the city and venues. They were provided to the IFs (on request) and broadcasters.

Mobile relay station for radio communications during road cycling and marathon events

The simplex transmission was used in staging the opening and closing ceremonies of the Games.

To ensure reliable operation of radio communications within Moscow, relay stations were installed on the Ostankino TV Tower. Mobile relay stations on vehicles were used for cycling road events on the Minsk Highway, on the walking and marathon courses. The radio circuits and stations designed for Moscow venues are listed below (see Table 6).

10 simplex radio circuits were derived to serve the Regatta in Tallinn. 135 users of the system were situated in different districts of the city and on boats at sea.

Table 6

| Olympic venue | Radio stations total | Radio circuits total | Including systems used in competitions | |
|---|---|---|---|---|
| | | | stations | circuits |
| Central Lenin Stadium | | | | |
| Grand Arena | 86 | 7 | 45 | 4 |
| Minor Arena | 24 | 2 | — | — |
| Palace of Sports | 23 | 2 | — | — |
| Swimming pool | 21 | 2 | 5 | 1 |
| Druzhba Arena | 18 | 1 | — | — |
| Marathon course | 71 | 6 | 43 | 5 |
| Olympic velodrome | 34 | 4 | 9 | 1 |
| Cycling circuit | 50 | 5 | 25 | 2 |
| Minsk Highway | 49 | 6 | 16 | 2 |
| Canoeing and Rowing Basin | 51 | 6 | 30 | 4 |
| Olympic archery field | 22 | 2 | 10 | 1 |
| CSCA Sports Complex | 29 | 3 | — | — |
| CSCA Palace of Sports | 12 | 1 | — | — |
| Olympiiski Indoor Stadium | 38 | 4 | — | — |
| Olympiiski Swimming Pool | 29 | 3 | 8 | 1 |
| Dynamo Central Stadium | 64 | 6 | 14 | 2 |
| Dynamo Palace of Sports | 14 | 1 | — | — |
| Dynamo Shooting Range in Mytishchi | 34 | 5 | 14 | 2 |
| Young Pioneers Stadium | 17 | 2 | 5 | 1 |
| Trade Unions Equestrian Centre | 86 | 5 | 67 | 2 |
| Izmailovo Palace of Sports | 17 | 2 | — | — |
| Sokolniki Palace of Sports | 19 | 3 | — | — |
| Main Press Centre | 10 | 1 | — | — |
| Olympic Village | 25 | 1 | — | — |
| Airports | 33 | 3 | — | — |
| City circuits: | | | | |
| for broadcasters | 300 | 3 | — | — |
| for competition officials | 60 | 1 | 60 | 1 |

# Amplification and Simultaneous Interpretation



Public address control room at the Grand Arena of the Central Lenin Stadium

All the competition sites were equipped with sound reinforcement and public address systems. Loudspeakers were provided at the arenas, stands, in locker rooms, competitors' waiting areas, training halls, etc. The speakers could be switched all at once or in groups. Instructions of the chief referee were transmitted to certain quarters only. The quarters sometimes changed depending on the type of competitions held.

The number of sound amplifiers and public address systems used during the Games and their main characteristics are shown in Table 7 below.

The public address system in the Olympiiski Indoor Stadium is unique.

It provides sound for a hall with a capacity of 800 thousand cu. metres and an arena measuring 120 by 86 metres. The seating capacity of the hall, as is known, is 45,000. It can be divided into two halls if necessary. In that event, the public address system is easily divided into two separate ones. Thus it provided sound simultaneously for boxing and basketball competitions in two halls during the Games. The arrangement of the speakers and their switching ensured excellent audibility both in the single hall and in two halls when divided. To provide sound to adjacent areas, additional public address systems had been installed.

The sound amplification system in the Olympiiski Indoor Stadium operates quite well in post-Olympic period for all the events held in its common hall and in the two separate halls, including, besides competitions, also concerts, public meetings, etc.

Mobile amplifiers were used for events of the arts programme of the Games, held in open air. The same type of units were employed during cycling events on the Olympic circuit, Minsk Highway, and equestrian competitions at the Trade Unions Equestrian Centre. 48 mobile amplifiers were used altogether.

To provide simultaneous interpretation for press conferences, the 83rd Session of the IOC, Congresses of the

Table 7

| Venue | Systems total | Main characteristics | | |
|---|---|---|---|---|
| | | Micro-phones | Total output in kw | Total of loudspea-kers |
| Lenin Central Stadium: | | | | |
| Grand Arena | 1 | 45 | 8.0 | 140 |
| Minor Arena | 1 | 40 | 5.0 | 236 |
| Swimming Pool | 1 | 15 | 1.5 | 30 |
| Palace of Sports | 2 | 55 | 8.0 | 221 |
| Druzhba Arena | 1 | 26 | 4.8 | 215 |
| Stadium grounds | — | 14 | 2.0 | 64 |
| Dynamo Central Stadium | 2 | 64 | 6.0 | 75 |
| Dynamo Minor Arena | 1 | 24 | 2.0 | 40 |
| Dynamo Palace of Sports | 1 | 26 | 3.0 | 319 |
| Dynamo Shootin Range in Mytishchi | 1 | 21 | 2.4 | 45 |
| Olympiiski Indoor Stadium | 2 | 89 | 24.0 | 1416 |
| Olympiiski Swimming Pool | 2 | 44 | 9.0 | 574 |
| CSCA Sports Complex | 1 | 71 | 21.6 | 1398 |
| CSCA Palace of Sports | 1 | 18 | 4.0 | 210 |
| Canoeing and Rowing Basin | 3 | 107 | 7.0 | 96 |
| Olympic Velodrome | 1 | 30 | 7.7 | 189 |
| Cycling circuit | 1 | 4 | 0.3 | 16 |
| Olympic archery field | 1 | 12 | 1.0 | 29 |
| Trade Unions Equestrian Centre | 2 | 22 | 7.0 | 175 |
| Young Pioneers Stadium | 1 | 40 | 1.03 | 35 |
| Sokolniki Palace of Sports | 1 | 26 | 3.0 | 196 |
| Izmailovo Palace of Sports | 1 | 26 | 3.0 | 217 |
| Minsk Highway | 1 | 4 | 0.3 | 16 |

IFs, and meetings of competition officials, both stationary and mobile systems were used. The USSR Ministry of Communications supplied 66 mobile simultaneous interpretation units for this purpose.

4- and 5-language interpreter systems were used in press subcentres at competition sites for interviews and for meetings of technical officials.

The following interpretation systems were used for events held by the IOC and IFs during the Games, as detailed in Table 8 below. All the interpretation systems were connected to the public address system of the auditorium. Speeches were tape-recorded at all the events held by the IOC and IFs.

To enhance reliability of communications at the Games of the XXII Olympiad, they were tested at some competition sites during the finals of the VII USSR Summer Spartakiade in July and August, 1979. The necessary data concerning the operation of those systems were collected according to special techniques. The systems were monitored and any malfunctions or failures were pinpointed, and operating time registered. The analysis of the data, as well as the suggestions of representatives from the IFs present at the competitions, and of technical officials allowed to eliminate in time the shortcomings found in the communications systems.

The development and installation work was completed in the main in early 1980. This allowed operators to refine techniques and methods of work and interaction of all the competition services during the time left till the Games.

Many members of the media and officials commented on the organisation of communications for the Games of the XXII Olympiad. Among them:

M. Geay, *L'Independant* newspaper, France: "The communication service was wonderful. I express my gratitude to its personnel."

Kahraman Bapcum, *Milliyet* newspaper, Turkey: "I have been all over the world for my profession. Here in Moscow Games I found best communication facilities for press... I have to thank all of the personnel for their service. Because they were so nice for us. And helped in extremely perfect way."

Alex Cameron, *Daily Record,* Glasgow, Scotland: "Many thanks for the splendid telex service at all Olympic venues—and particularly the Main Press Centre. The work of your young ladies was faultless...."

Luis Enrico Condado, President of the Organising Committee of the 1983 Pan-American Games, Venezuela:

"...The communications services were also excellent. We called Caracas several times from various arenas and hotels, and on no occasion did we have to wait longer than 10 or 15 minutes. The telex and telegraph services worked faultlessly.... I am leaving Moscow in the best possible mood and with many memories."



**An announcer**
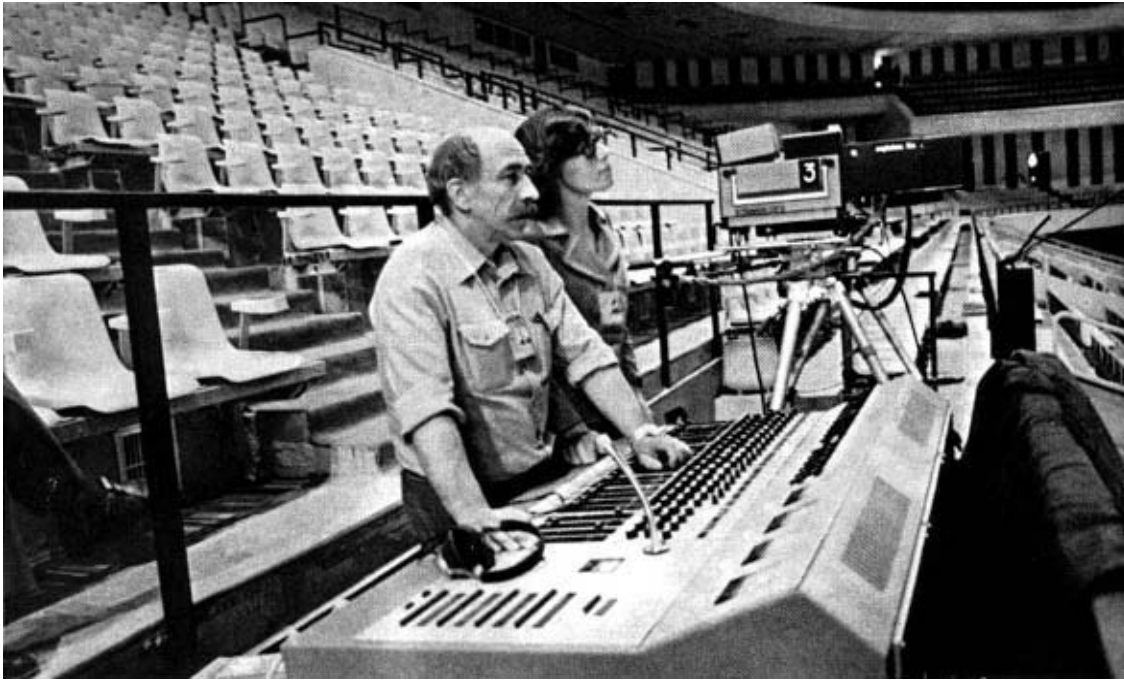
**Preamplification control panel of the public address system at the basketball hall of the Olympiiski Indoor Stadium**

**Amplifying equipment of the public address control room at the Olympiiski Indoor Stadium**

Table 8

**Simultaneous Interpretation Systems and Their Characteristics**

| Event | Type of system | Langu-ages | Parti-cipants | Total of mikes | Distribution of microphones | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Chairman table | | Floor | | Exten-sions | On parti-cipa-nts' tables |
| | | | | | Single | Double | Single | Double | | |
| 83rd Session of IOC | Wired system | 5 | 103 | 41 | 8 | 1 | — | — | — | 31 |
| IOC Executive Board | Wired system | 2 | 15 | 12 | — | — | — | — | — | 12 |
| IOC Press Commission | Wired system | 3 | 30 | 12 | — | — | — | — | — | 12 |
| IOC Press Conference | Radio-type conference system | 5 | 400 | 12 | 2 | 1 | — | 1 | 6 | — |
| IF Congress | Radio-type system | 5 | 6 | 140 | 2 | 1 | — | 1 | — | 134 |
| IF Congress | Radio-type system | 5 | 300 | 86 | 2 | 1 | — | 1 | — | 80 |
| IF Congress | Wired conference system | 5 | 400 | 12 | 1 | 1 | — | 1 | 6 | — |
| IF Congress | Radio-type system | 5 | 250 | 73 | 1 | 1 | — | 1 | — | 68 |
| IF Press Conference | Radio-type conference system | 5 | 400 | 10 | 1 | — | 1 | — | 8 | — |
| IF Press Conference | Wired conference system | 3 | 120 | 6 | 1 | — | 1 | — | 4 | — |

Chapter **IV.**

# The Preparations for and Staging of the Events

The sports programme for the Games of the XXII Olympiad was determined at the 75th Session of the IOC (Vienna, 1974) and included: athletics, rowing, basketball, boxing, canoeing, cycling, equestrian sports, fencing, football, gymnastics, weightlifting, handball, hockey, judo, wrestling, swimming, modern pantathlon, shooting, archery, volleyball, yachting.

The preparations for and staging of the Olympic competitions in these events were the most important tasks of the OCOG-80. The sports programme of the Games was worked out on several principles.

First of all, the task was to stage the Olympic competitions on a high organisational level in order to make sure that all the participants had equal opportunities to achieve the best possible results.

Particular attention was paid to the rules of the IOC and IFs.

Account was also taken of the rich Soviet experience in staging major competitions.

The technical provisions for the Olympic events were based on the achievements of science and practice, in order to create the conditions necessary for top athletes to perform in and for maximum objective refereeing.

In turn the creation of the material and technical groundwork of the Games, the preparation of athletes for the high level competitions and their performance at the Games were to give a fresh spurt to sport throughout the world.

While working out the sports programme for the Moscow Games, the OCOG-80 took into account the experience of the organisers of the 1972 Olympics. The experience of preparing for and staging the 1976 Olympic Games, held in Montreal, was also studied and analysed.

The Sports Department was set up within the OCOG-80 in order to plan and organise the preparations for the Olympic events. When selecting specialists to work in this department account was taken, first of all, of their professional standards, their experience of organising and refereeing competitions and their prestige among the Soviet and foreign sports public. Among the specialists who were invited to work there were four IF vice-presidents, three members of IF administration and technical bodies, seven international and national category referees and eight members of the administrative bodies of Soviet sports federations. Each of the specialists supervised a maximum of

two sports. All in all, the department's personnel numbered 64 officials (excluding service personnel).

In 1976-1979 the Sports Department included a programme section and a section responsible for information, referee and sports equipment. By the beginning of the Games the Department had seven sections employing 64 people. Moreover, in 1979-1980 six additional services were set up under the Department. The Department's main tasks were: 1. carrying out the organisational and methodological work involved in preparing for and staging the events in accordance with the 1980 Olympics programme; 2. making sure that IF rules and requirements were observed in building and reconstructing sports installations and fitting them out with necessary equipment; 3. controlling the development of the facilities used to fit out the sports installations and making sure they tallied with the IF rules and requirements; 4. selecting and preparing Soviet sports referees, auxiliaries and other personnel for the events; 5. coordinating the work involved in getting the sports facilities ready for training during the Games; 6. setting up drug and veterinary control services in accordance with the Olympic Charter; 7. establishing contacts with IF representatives on preparing for and staging the Olympic events; 8. editing and processing information on the sports programme; 9. receiving and processing entries from NOCs; 10. holding the Olympic events jointly with the IFs and the sports federations of the USSR, including results processing.

In tackling these tasks, experts relied on the experience acquired during previous Games and on that accumulated in preparing for and staging sports competitions during the 1973 Students Games in Moscow and the 1977 Students Games in Sofia, as well as in a number of major international competitions held in the Soviet Union.

The VII USSR Summer Spartakiade held from July 21 to August 5, 1979 played a special role. Here much of the facilities intended for the Moscow Games was put to the test and a considerable amount of Olympic referee documentation was used.

The Sports Department conducted its activity in accordance with the overall summary plan for Games Programme worked out in 1976. Daily plans and timetables for every sport and for every Department service were drawn up for the final stage of the preparations and for the Games them-

selves (from May to August 3, 1980). They contained all the planned events which were to take place at the Olympic sites.
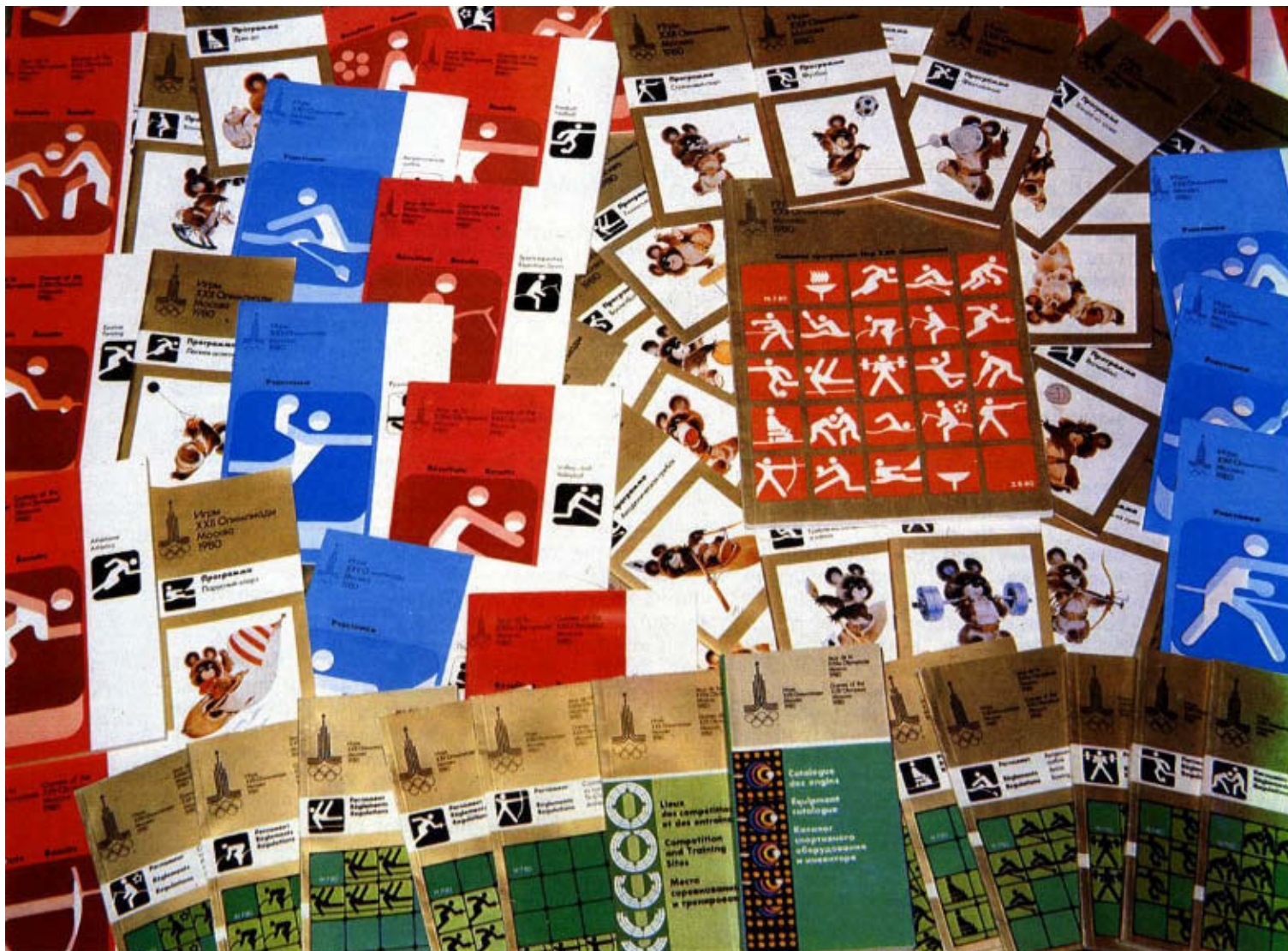
The OCOG-80 worked out and, in the order established with the IFs and the IOC, coordinated 52 titles of official documentation and reference and official publications in three languages—French, English, and Russian.

These publications included: the technical regulations for 21 sports, a brochure on "IOC Medical Controls", "Racing Instructions for the Yachting" and "Instructions on Measuring Yachts". Referee events documentation was drawn up in all sports, and 505 different application forms for taking part in the Games as well as "Instructions on Filling In Entries". A number of other brochures, programmes and posters concerning sports programmes were also published.

The public commission of the Organising Committee, in organising the events and sports and technical equipment, actively tackled all the questions arising from preparing for and staging the Games. This comprised representatives of the USSR sports federations and specialists from design organisations.

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## The Dates of the Games, the Calendar and Events Timetable

To ensure that the athletes were well prepared for the Olympic Games the OCOG-80 was busy to adopt relevant decisions and inform all the National Olympic Committees of them as early as possible.

First of all the dates of the Games had to be fixed. This called for an analysis of a host of factors. As a result the Organising Committee suggested holding the Games between July 19 and August 3, 1980.

These dates were selected on the basis of hydrometeorological data collated for Moscow over the last 100 years. They showed that the second half of July and the beginning of August was the most favourable period to hold the Games in, climatic conditions in Moscow then being fairly constant: the average monthly temperature is +18 or 19°C. The lowest daily temperature—+12.8°C—13.4°C (at 4-5 a.m.) and the highest—+23.4°C—24.5°C (at 2-3 p.m.). Relative humidity fluctuates from 40 per cent to 68 per cent. The average precipitation is 2-4 mm, mainly taking the form of brief showers. The average number of cloudy days is 3-4 during the month.

It should be noted that, as had been expected, the weather conditions in Moscow during the Games turned out to be favourable and the same can be said for Tallinn and other Olympic cities.

When fixing the dates for the Games due attention was paid to the time of holding traditional international competitions in summer Olympic sports.

The OCOG-80 put its suggestions with regard to the dates to the IOC four and a half years before the Games were due to start. The 77th IOC session in February 1976 in Innsbruck approved these suggestions, making it possible for the organisers of the Games to plan their preparatory work, to successfully resolve the material and technical provisions for the events, to prepare the cultural programme in the best way, etc.

At the same time this allowed IFs to better plan the traditional world championships and tournaments held in various regions. Athletes taking part in the Olympic Games to come were given an opportunity to plan their training so as to achieve the "peak" of their sporting form in all the pre-Olympic seasons.

At its 78th session in Montreal held in July 1976 the IOC examined and approved the OCOG-80's suggestions on holding the games of the XXII Olympiad in 199 different events as approved by the 75th session of the IOC.

At the request of certain IFs the June 1977 Prague IOC session broadened the sports programme: the 50-km walk was restored, a new weight division of up to 100 kg was introduced in weightlifting, and the weight divisions applied in judo were completely changed, as a result of which their total number increased from six to eight.

In yachting the Tempest Class was replaced by the Star.

Thus, 203 different events were included in the programme for the Games of the XXII Olympiad.

**Athletics:** women—100 m, 200 m, 400 m, 800 m, 1,500 m; 100 m hurdles, 4x100 m and 4x400 m relays, long-jump and high-jump, shot put, discus and javelin throwing, pentathlon; men—100 m, 200 m, 400 m, 800 m, 1,500 m, 5,000 m, 10,000 m, 110 m hurdles, 400 m hurdles, 3,000 m steeplechase, 42 km 195 m (marathon), 4x100 m relay and 4x400 m relay, 20- and 50-km walk, high-jump, long-jump, triple jump, vaulting, shot put, discus and javelin throwing, pentathlon.

**Rowing:** women—single sculls, double sculls, pair-oars, quadruple sculls, four-oars, eights; men—single sculls, double sculls, pair-oars without coxswain, pair-oars with coxswain, quadruple sculls, four-oars without coxswain, four-oars with coxswain, eights.

**Basketball:** women's and men's teams.

**Boxing:** weight divisions—light flyweight up to 48 kg, flyweight up to 51 kg, bantamweight up to 54 kg, featherweight up to 57 kg, lightweight up to 60 kg, light welterweight up to 63.5 kg, welterweight up to 67, light middleweight up to 71 kg, middleweight up to 75 kg, light heavyweight up to 81 kg, heavyweight over 81 kg.

**Canoeing:** women—kayak singles 500 m, kayak pairs 500 m; men—kayak singles 500 m, kayak pairs 500 m, Canadian singles 500 m, Canadian pairs 500 m, kayak singles 1,000 m, kayak pairs 1,000 m, kayak fours 1,000 m, Canadian singles 1,000 m, Canadian pairs 1,000 m.

**Cycling:** 1 km time trial, individual sprint (3 laps of the track), 4,000 m individual pursuit, 4,000 m team pursuit; individual road race (circuit), 189 km, 100 km team time trial.

**Equestrian sports:** three-day event—individual and team, jumping Grand Prix—individual and team, dressage—individual and team.

**Fencing:** women—foil, individual and team events; men—foil, individual and team events; epée, individual and team events, sabre, individual and team events.

**Football:** men.

**Gymnastics:** competition I, competition II, competition III; apparatus (women): horse vault, uneven bars, balance beam, floor exercises, apparatus (men): floor exercises, side horse, rings, horse vault, parallel bars, horizontal bar.

**Weightlifting:** weight division up to 52 kg, up to 56 kg, up to 60 kg, up to 67.5 kg, up to 75 kg, up to 82.5 kg, up to 90 kg, up to 100 kg, up to 110 kg, over 110 kg.

**Handball:** women and men.

**Hockey:** women and men.

**Judo:** weight divisions—lightweight up to 71 kg, half middleweight up to 78 kg, middleweight up to 86 kg, half heavyweight up to 95 kg, heavyweight over 95 kg, open category (no weight limit), extra light up to 60 kg.

**Wrestling:** weight classes up to 48 kg, up to 52 kg, up to 57 kg, up to 62 kg, up to 68 kg, up to 74 kg, up to 82 kg, up to 90 kg, up to 100 kg, over 100 kg.

**Swimming:** women—freestyle—100 m, 200 m, 400 m, 800 m; breaststroke—100 m and 200 m; butterfly—100 m and 200 m; backstroke—100 m and 200 m; 400 m individual medley; 4x100 m medley relay and 4x100 m freestyle relay; men—freestyle—100 m, 200 m, 400 m, 1,500 m; breaststroke—100 m and 200 m; butterfly—100 m and 200 m; backstroke—100 and 200 m; 400 m individual medley; 4x100 m medley relay and 4x200 m freestyle relay.

**Diving:** women—springboard, platform;
men—springboard, platform.

**Water polo:** men.

**Modern Pentathlon:** individual and team events.

**Shooting:** free pistol; small-bore rifle, prone pos.; small-bore rifle 3 pos.; running game target, rapid-fire pistol; clay target shooting.

**Archery:** women and men.

**Volleyball:** women's and men's teams.

**Yachting:** classes Soling, Star, Flying Dutchman, Tornado, 470, Finn.

The OCOG-80 presented the 79th IOC session with a draft schedule of the competitions which had preliminary been examined at the IOC Executive Board session held together with the IFs in Barcelona in October 1976.

When working out this draft the recommendations of the leaders of some IFs were taken into consideration. As a result it was decided to introduce some changes into the traditional schedule of the Games. The aim was:

to reduce gradually towards the end of the Games the number of competitions held simultaneously;

to distribute the finals of the most spectacular events evenly over the Olympic period;

if possible to even out the load on sports facilities and services, including transport, medical, drug control and medal awarding, as well as on the technical facilities.

To meet the first of these requirements, the competitions had to be distributed over the period of the Games in such a way that there would be a more or less equal number of events on each day, except for the last few ones.

Taking into consideration that the sports games are highly emotional and extremely attractive for the spectators, their number was planned to be approximately equal for each day over the period of the Games.

The 79th IOC session approved the schedule of the competitions of the Games.

The next stage was the drawing up of an hour-by-hour timetable for the Olympic events, with the OCOG-80 giving due consideration to the traditions of certain IFs. For instance, boxing matches are not generally held in the morning. The timetable also took account of the work schedule of the Muscovites and the operation of city transport and its carrying capacity. To take TV viewers' interests into account, finals held on one and the same day mostly did not coincide in time.

In May 1978 the OCOG-80 approved the hour-by-hour timetable drafted for the events and specified plans for many other undertakings, including the Cultural Programme, the organisation of all kinds of services, the ticket programme, etc.

As to the number of events, athletics comprised nearly a fifth of the entire sports programme of the Games. Therefore, preparing the timetable for the athletics competitions served as a kind of groundwork for working out the schedule and the hour-by-hour timetable for all the events.

In 1976, at the suggestion of the Organising Committee, the International Amateur Athletics Federation (IAAF) adopted a decision to change the rhythm of the athletes' competitions at the Moscow Olympic Games. Whereas in Montreal, during the 1976

# SCHEDULE OF THE COMPETITIONS

| | JULY | | | | | | | | | | | | | AUGUST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 |
| Opening Ceremony | + | | | | | | | | | | | | | | | |
| Athletics | | | | | | + | + | + | + | + | | | + | + | + | |
| Rowing | | + | + | + | + | + | + | + | + | | | | | | | |
| Basketball | | + | + | + | + | + | + | + | + | + | + | + | | | | |
| Boxing | | + | + | + | + | + | + | + | + | + | + | + | + | | | + |
| Canoeing | | | | | | | | | | | | | + | + | + | + |
| Cycling—track | | | | + | + | + | + | + | | | | | | | | |
| —road | + | | | | | | | | + | | | | | | | |
| Fencing | | | | + | + | + | + | + | + | + | + | + | + | | | |
| Football | | + | + | + | + | + | + | | + | | + | | | + | + | |
| Gymnastics | | + | + | + | + | + | + | | | | | | | | | |
| Weightlifting | | + | + | + | + | + | | + | + | + | + | + | | | | |
| Handball | | + | + | + | + | + | + | + | + | + | + | + | | | | |
| Field hockey | | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Judo | | | | | | | | | + | + | + | + | + | + | + | |
| Wrestling—freestyle | | | | | | | | | + | + | + | + | + | | | |
| —Greco-Roman | | + | + | + | + | + | | | | | | | | | | |
| Swimming, diving and | | | | | | | | | | | | | | | | |
| Water polo | | + | + | + | + | + | + | + | + | + | + | | | | | |
| Modern Pentathlon | | + | + | + | + | + | | | | | | | | | | |
| Equestrian sports | | | | | | + | + | + | + | | + | + | + | + | | + |
| Shooting | | + | + | + | + | + | + | + | | | | | | | | |
| Archery | | | | | | | | | | | | | + | + | + | + |
| Volleyball | | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Yachting | | | + | + | + | + | | | + | + | + | | | | | |
| Closing Ceremony | | | | | | | | | | | | | | | | + |

Olympics, athletes competed for four days, rested for one day and then competed for another four days, in Moscow they had five competition days before a rest day, followed by another three days of competitions.

The estimated number of participants in each of the 38 athletics events and a list of possible clashes, where the same athlete might be down for more than one event at a time, were drawn up. The aim was to ensure that there would not be more than two field competitions at the same time as running events. The finals of these competitions, when held in one shift, were, as a rule, moved in time.

Adriann Paulen, the IAAF President, and the IAAF technical delegates Frederick Holder and Artur Takac took an active part in drawing up the athletics schedule. In the spring of 1978 it was approved by the IAAF council. The OCOG-80 conducted similar work with the IFs of other sports. This was finished by mid-1978.

On July 20, 1978 the OCOG-80 forwarded the hour-by-hour timetable for the events of the Games in 12 sports to all the NOCs recognised by the IOC. Then as the IFs approved the timetables for the rest of the nine sports, they were sent to the NOCs.

This made it possible for competitors to plan their training within the limits of a weekly cycle, in accordance with the time of their future performances at the Games.

# Co-operation with the IOC and IFs on Sports Programme

Close co-operation between the organisers and the IOC and IFs was one of the most important conditions for the success of the Games. The Organising Committee began its work in this direction practically six years before the Games of the XXII Olympiad.

To introduce a planning approach to this co-operation, the Organising Committee worked out and together with IFs put into practice a long-term programme directed at coordinating the main sports and technical questions plenty of time in advance.

Here are the main provisions of this programme.

1976. Agreeing to the co-operation plan, appointing IF officials and determining the terms, places and programmes for meetings with them. Agreeing to the planning of sports arenas, stand capacities and the layout plans for the service and auxiliary premises at the Olympic sports facilities.

1977. Agreeing to a list of sports facilities as well as one of referee and information equipment. Agreeing to the technical regulations draft and plans for seating all interested persons on the stands. Drawing up and agreeing to a list of training facilities and technical equipment for them. Determining the number of members on the board of referees and judges and their work together.

1978. Approval of the IFs for the regulations and their coordination with the IOC. Agreeing to the conditions for foreign athletes to take part in the finals of the VII USSR Spartakiade in the summer of 1979. Agreeing to the referee documentation of the Games.

1979. The presence of IF representatives at the VII USSR Spartakiade. Preliminary acceptance of the Olympic competition and training facilities. Discussion of IF proposals concerning these facilities, their technical equipment and its arrangement and the colour design of the stands.

1980. Specification of the list of candidates for the posts of IF technical officials and members of the board of referees and judges. Formal acceptance of fully equipped sports facilities. Holding of the Olympic competitions, in accordance with the sports programme of the Games.

This plan was approved by the OCOG-80 and all the IFs in Barcelona in October 1976. Many IF officials commented that it was the first time in preparing for the Games that their organisers had begun to work together with IFs well in advance. Later on Robert Helmick, honourary general secretary of the International Amateur Swimming Federation, stated that "great respect for planning, so natural to the Soviet system, has turned out to be a favourable factor in preparing for the Moscow Olympic Games".

The OCOG-80 invited IF officials and technical delegates to Moscow and the other Olympic cities in order to give them a chance to acquaint themselves with the preparations for the Games, and to exchange opinions. Moreover, representatives of the OCOG-80 and of the Soviet sports federations regularly reported at meetings of the IF leading bodies on the various questions arising from the preparations for the Games.

IF administration annually received more detailed information on the preparations for the Games from OCOG-80 delegations taking part in IF meetings within the General Assembly of the international sports federations. Bilateral meetings between the OCOG-80 and each IF were held during these sessions.

This co-operation helped the OCOG-80 to develop sound business contacts with most of the international sports federations and settle all the sports and technical questions well in advance.

The OCOG-80 noted with satisfaction all the valuable recommendations it received from IFs, and their active work in settling various problems involved in preparing for the Games. Thus, at the initial stage of the construction work IF representatives examined the plans for new installations.

For instance, Javier Ostos, president of the FINA, and its general secretary Robert Helmick, who before 1979 had been its technical delegates, noted with satisfaction that swimmers and divers would compete in two swimming pools divided by a permanent partition. This ensured the most favourable conditions for staging the competitions and made it possible to cut down the length of time they lasted.

The arrival of the representatives of the 16 IFs at the finals of the VII Summer Spartakiade was an important stage in carrying out the programme of co-operation with IFs.

At this period sports and technical questions to do with the Olympic competitions were finally agreed on and recommendations received for the final preparation stage.

To the control competitions held on the eve of the Games the Organising Committee invited officials and technical delegates from the IFs with which it had to examine certain additional questions.

The long-term plans for co-operation between the OCOG-80 and the IFs, encompassing the period between 1976 and 1980, which included the Games themselves, were fully realised in the time agreed upon and this facilitated the staging of the Games.

The OCOG-80 based its work on business-like co-operation with the IOC headquarters in the person of its director Monique Berlioux, technical director G. Benx and IOC technical adviser Arpad Csanadi.

At the close of 1976, during a meeting with G. Benx, the question of co-operation between the OCOG-80 and the IOC over the sports programme was discussed and the procedure and tentative dates for handing over relevant materials to the IOC agreed upon. A Sports Programme section was included in every OCOG-80 summary presented to sessions of the IOC and its Executive Board as well as to sessions of the IOC Executive Board held with the NOCs and IFs.

The work done on the regulations was also conducted in close collaboration with the IOC. First, in October 1977, the regulations prepared by the OCOG-80 were submitted for examination to the IFs. Some of the federations deemed it necessary to draw up draft regulations themselves. The OCOG-80 took all these into consideration when preparing the final variants. In 1978 the regulations were approved by all the corresponding IFs and by March 1979, ready to be published, they were signed by the IF leaders and then approved by the IOC.

Representatives of the OCOG-80 took part in preparing the "IOC Medical Controls" brochure, which was drawn up by the IOC Medical Commission and put out at the same time as the regulations.

In 1979 the IOC agreed upon the entry forms for athletes taking part in the Games.

By November 1979 the OCOG-80 in accordance with Rule 43 of the Olympic Charter had agreed with all the IFs upon the number of technical officials (referees, judges, time keepers and inspectors), as well as on the members of the jury in every sport. Then the IOC Executive Board approved the number of these officials.

At the final preparation stage (April-June 1980) the OCOG-80 regularly informed the IOC on how many NOC entries had been registered.

During the Games the OCOG-80 prepared daily reports covering the sports programme for the IOC Executive Board. These contained the following: sports in which events were held and the number of events; the number of medal sets competed for; the number of spectators present on the stands; data about medical control tests done on the athletes; information on the world and Olympic records set; information on the presentation ceremonies; a list of athletes and teams to win medals; and information on the next day's sports programme.

These reports, published in French and English, were delivered to IOC headquarters by 9 a.m. every day.
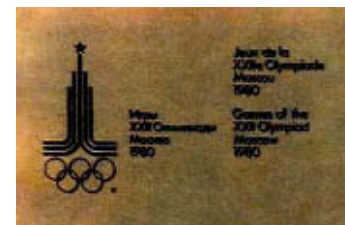
# Administering the Competitions

Previous Games saw three levels of administration: a general coordinating centre, coordinating centres at sports installations, and bodies directly administering the competitions. A scheme was worked out and put into effect which took due account of this experience for the Games of the XXII Olympiad: an operational administration HQ was set up for the Games as were operational centres for holding competitions at various sites and their directorates for the competitions.

The organisational structure of the Games administration, in particular, the work of the HQ and operational centres, was highlighted in Chapter One of the present volume. Given in this section is the data on the directorates.

These directorates for the competitions were set up by the OCOG-80 in February 1980. This made it possible to perfect the interaction of all the sub-units, and to organise the training and distribution of personnel directly at the competition sites.

It should be noted that prototypes of these directorates had existed since 1977, when working groups were set up in sports on a voluntary basis under the Sports Department. They included representatives of the Soviet sports federations, referees, specialists on sports equipment, referee instruments and scoreboards, and administration workers at sports installations. Their task was to work out draft methodological documents dealing with the organisational aspects of the competitions and to prepare proposals for developing new or updating already existing sports and technical facilities. The specialists in these groups supervised the construction, reconstruction and equipping of the sports arenas, consulted on sports and technological questions.

As the Games approached, the composition of the groups expanded, embracing ever new areas. Places of work for these specialists were set aside.

During the finals of the VII Summer Spartakiade many of the members of these groups worked on the boards of referees and judges. After the Spartakiade the OCOG-80 got down to forming the directorates of the competitions together with the Soviet sports federations. Each directorate was set up on the basis of a standard structure: top management, working commission, referee and auxiliary personnel, technical workers servicing a complex of sports and technical facilities, the services entrusted with preparing the sites for the competi-

**Standard Structure of the Directorate Concerned with Holding the Olympic Competitions**
1. Head of the directorate
2. Deputy dealing with organisational and refereeing problems
3. Deputy dealing with maintenance and technical questions
4. USSR Federation President
5. Soviet representative in the IF administrative organs or working bodies
6. Executive secretary of the USSR Federation
7. Chairman of the National Board of Referees and Judges
8. Chief secretary of the competitions
9. Group ensuring the work of the IF HQ
10. Secretariat of the competitions
11. Teams of referees
12. Sports information service
13. Events superintendent service
14. Service responsible for maintenance of sports and technical facilities
15. Service dealing with the official suppliers
16. Maintenance and technical services at each sports installation
17. Service for preparing sites of the competitions.
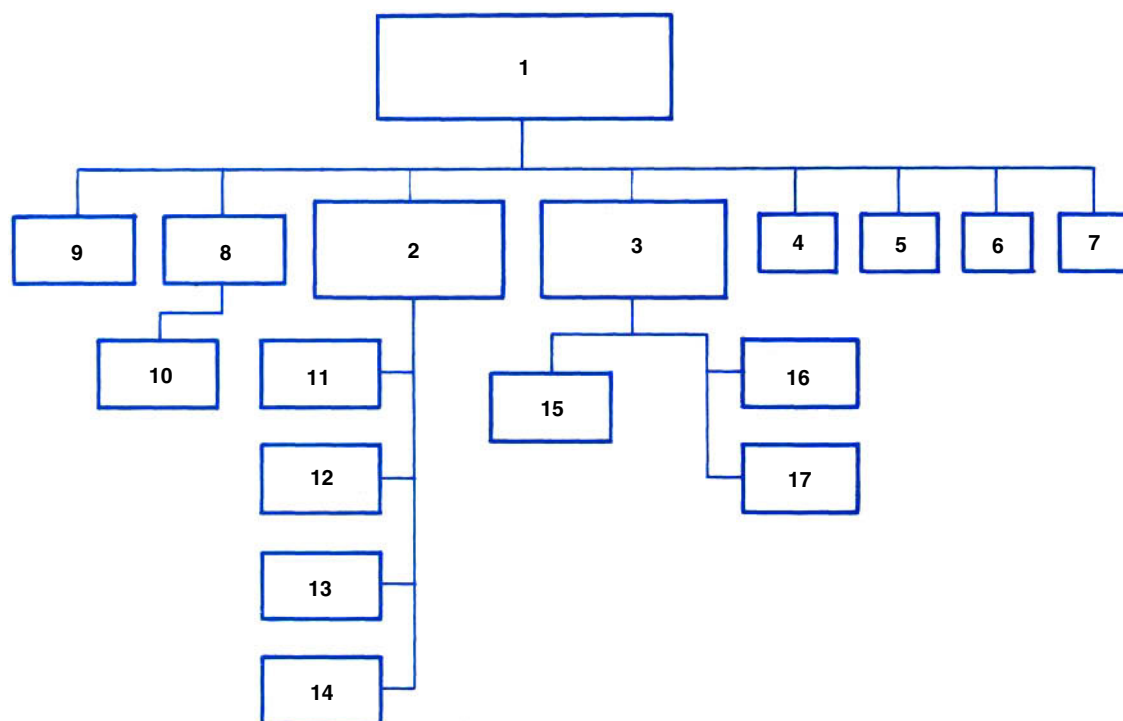
tions, maintenance and technical services at sports facilities, and a group ensuring the functioning of the IF HQ.

The directorate was an organisational body uniting all the workers and services engaged in holding competitions in a particular sport. It was run by the first deputy chief of each operational centre at the sports arena or stadium where the competitions were held.

Such a structure made it possible to concentrate in one place the bodies administering all the facilities necessary for holding the competitions and ensured a prompt solution to all the problems arising. This in turn facilitated the success of the Games.

The sports information service, set up under the Sports Department (a) supplied information about the competitions to members of the National Olympic Committee sports delegations residing in the Olympic Village, and (b) prepared material for broadcasting and scoreboards at sports installations.

To resolve the first task 20 information and reference points dealing with various sports were set up in the Olympic Village. The information service included a special Section which during the preparation and staging of the Games selected and trained announcers in foreign languages for every sport, organised translations of the announcer's texts and edited them, and prepared material for broadcasting.

In 1979-1980 123 English or French speaking announcers were selected from 500 candidates. They were mainly chosen from among experienced teachers and the best students of Moscow institutes, as well as from among the announcers of the USSR Gosteleradio.

The announcers' training included lectures on the Olympic movement and international sport. Future announcers studied the pronunciation of foreign names, NOCs and IFs. There was also individual training with the microphone. Announcers learnt sports terminology, IF regulations and the specifics of certain sports.

Standard and specific texts to be read over the radio were translated in advance for the English and French announcers. These texts were agreed upon with the IF representatives. Some of the texts were recorded in studios beforehand.

During the Games this Section distributed information between the competition sites, prepared reports on the most important events for the radio announcers and to be displayed on the scoreboards, supervised the work of the radio announcers and, when necessary, rendered them help.

During the Games the Section supplied competition sites with information on the medallists in all the 203 events. Information was also supplied on new Olympic and world records and the results were given of sports matches and certain preliminaries. This information was conveyed to the sports facilities over the telephone. All in all 648 information telephoned telegrams were sent.

Highlights of the events, commented on in three languages (French, English and Russian), were

shown at the Grand Arena of Lenin Stadium on the videomatrix Scoreboard.

It should be noted that certain IFs did not consent to information being announced to their spectators about events at other sites. However these differences were overcome through negotiations. As a result, the spectators on the stands received information about events at other sites.

Work on the entries forwarded by the NOCs included preparing documentation, working out the techniques of this work and receiving and processing the entries.

The preparatory work on entry forms began in 1977. It was based on forms worked out by the OCOG of the 1976 Olympic Games, which themselves had been based on the documentation of previous Games. These forms were convenient from the point of view of function; the layout of the columns and texts made it possible to feed them straight into the computer.

Naturally, corrections and additions had to be made for the Games. A number of extra forms had to be made. All in all there were 96 forms:

| | |
|---|---|
| preliminary (quantitative) entries | —29 forms |
| final (personal) entries | —59 forms |
| eligibility code for an athlete, affirming his amateur status | —1 form |
| entries for NOC officials | —1 form |
| entries for IF referees | —1 form |
| a questionnaire for transporting boats, yachts and horses | —4 forms |
| reference form for transporting sporting weapons and ammunition | —1 form |

All the forms except the eligibility code form were made in blocks of five sheets of carbonless paper, each a different colour, to facilitate work.

The text on the first and fifth copies was in French and English, the second, third and fourth also had a Russian text and various remarks of an official character.

When evolving the techniques for receiving entries due account was taken of transliterating the names of the participants into Russian, which caused certain difficulties. Special reference and methodological textbooks for transliterating from over 25 languages were published for the purpose. The correct transliteration of the names of the Soviet participants presented no easier a task.

The following system existed for receiving and registering entries: the department for receiving and processing entries set up at the main secretariat service, consisted of three groups. These dealt with receiving entries, supervising translations and the preliminary processing of entries, and systematising and distributing these entries to whom they were concerned.

Forms for preliminary (quantitative) entries together with instructions on how to fill them in were sent out by the OCOG-80 before April 1, 1980, to all the NOCs recognised by the IOC. After preliminary entries properly filled

in had arrived from each NOC, a set of personal entries forms were prepared and sent by the OCOG-80.

An official representative of the NOC delegation handed in the final (personal) entries to the registration section in the Olympic Village (before the arrival of the athletes in Moscow his role was played by the Olympic attaché). Eighteen teams, each of which consisted of a specialist in a certain sport and translators with a knowledge of the official and working IOC languages, as well as others in widespread use, worked hard receiving these entries. The latter were carefully checked to make sure they had been filled in correctly. The athlete's names were written in Russian.

With the Russian text filled in, the entries went to a group that checked that the translation was correct and then to a preliminary processing group which programmed them for the ACS "Olympiad". On the whole entries ready to be fed into the computer had been checked up to five times to be sure they had been filled

in correctly. The completed application forms were sent to the ACS "Olympiad", to the directorate of the particular sport and to the accreditation service at the Olympic Village.

When finally registered, the entries data multiplied on the computer printer, went to the systematisation and distribution group, from which the applications and lists of athletes were forwarded to the directorates of the competitions.

The OCOG-80, with the approval of the IOC, did not keep strictly to the closing dates for acceptance of entries set earlier, but agreed to take them at a later date. This created certain difficulties both during the registration of all the participants and when the book *The Participants of the Games of the XXII Olympiad* was published, as well as for the boards of referees and judges.

There were personal entries from 5,748 athletes from 81 NOCs, 4,527 of whom were men and 1,221 women. Also registered were the entries of 2,556 sports delegation officials.

## Competitors by NOCs

| N | Country | Athletes who applied to compete | | | Athletes who actually did compete | | |
|---|---|---|---|---|---|---|---|
| | | men | women | total | men | women | total |
| 1 | AFG | 13 | — | 13 | 11 | — | 11 |
| 2 | ALG | 59 | 1 | 60 | 58 | 1 | 59 |
| 3 | AND | 2 | — | 2 | 2 | — | 2 |
| 4 | ANG | 12 | 1 | 13 | 12 | 1 | 13 |
| 5 | AUS | 98 | 29 | 127 | 96 | 30 | 126 |
| 6 | AUT | 74 | 22 | 96 | 68 | 21 | 89 |
| 7 | BEL | 49 | 17 | 66 | 44 | 17 | 61 |
| 8 | BEN | 17 | 1 | 18 | 16 | 1 | 17 |
| 9 | BIR | 2 | — | 2 | 2 | — | 2 |
| 10 | BOT | 7 | — | 7 | 7 | — | 7 |
| 11 | BRA | 94 | 15 | 109 | 94 | 15 | 109 |
| 12 | BUL | 209 | 102 | 311 | 197 | 98 | 295 |
| 13 | CGO | 10 | 14 | 24 | 9 | 14 | 23 |
| 14 | CMR | 23 | 3 | 26 | 23 | 3 | 26 |
| 15 | COL | 23 | — | 23 | 23 | — | 23 |
| 16 | CRC | 31 | 1 | 32 | 29 | 1 | 30 |
| 17 | CUB | 188 | 35 | 223 | 181 | 35 | 216 |
| 18 | CYP | 12 | 2 | 14 | 12 | 2 | 14 |
| 19 | DEN | 60 | 3 | 63 | 60 | 3 | 63 |
| 20 | DOM | 5 | 1 | 6 | 5 | 1 | 6 |
| 21 | ECU | 12 | 1 | 13 | 10 | 1 | 11 |
| 22 | ESP | 153 | 10 | 163 | 150 | 9 | 159 |
| 23 | ETH | 43 | 2 | 45 | 39 | 2 | 41 |
| 24 | FIN | 125 | 10 | 135 | 114 | 10 | 124 |
| 25 | FRA | 107 | 25 | 132 | 101 | 24 | 125 |
| 26 | GBR | 170 | 77 | 247 | 157 | 74 | 231 |
| 27 | GDR | 240 | 134 | 374 | 232 | 130 | 362 |
| 28 | GRE | 40 | 3 | 43 | 39 | 3 | 42 |
| 29 | GUA | 11 | — | 11 | 10 | — | 10 |
| 30 | GUI | 9 | — | 9 | 9 | — | 9 |
| 31 | GUY | 7 | 1 | 8 | 7 | 1 | 8 |
| 32 | HOL | 70 | 20 | 90 | 66 | 20 | 86 |
| 33 | HUN | 220 | 91 | 311 | 192 | 87 | 279 |
| 34 | IND | 58 | 18 | 76 | 56 | 18 | 74 |
| 35 | IRL | 45 | 3 | 48 | 45 | 3 | 48 |
| 36 | IRQ | 45 | — | 45 | 44 | — | 44 |
| 37 | ISL | 9 | — | 9 | 9 | — | 9 |
| 38 | ITA | 134 | 39 | 173 | 124 | 39 | 163 |
| 39 | JAM | 14 | 9 | 23 | 11 | 7 | 18 |
| 40 | JOR | 4 | — | 4 | 4 | — | 4 |
| 41 | KUW | 61 | — | 61 | 58 | — | 58 |
| 42 | LAO | 18 | 2 | 20 | 17 | 2 | 19 |

| N | Country | Athletes who applied to compete | | | Athletes who actually did compete | | |
|---|---|---|---|---|---|---|---|
| | | men | women | total | men | women | total |
| 43 | LBA | 30 | 2 | 32 | 30 | 2 | 32 |
| 44 | LBR | 7 | — | 7 | — | — | — |
| 45 | LES | 6 | — | 6 | 5 | — | 5 |
| 46 | LIB | 18 | — | 18 | 17 | — | 17 |
| 47 | LUX | 3 | — | 3 | 3 | — | 3 |
| 48 | MAD | 8 | 3 | 11 | 8 | 3 | 11 |
| 49 | MEX | 39 | 9 | 48 | 36 | 9 | 45 |
| 50 | MGL | 40 | 5 | 45 | 39 | 4 | 43 |
| 51 | MLI | 7 | 1 | 8 | 6 | 1 | 7 |
| 52 | MLT | 8 | 1 | 9 | 7 | 1 | 8 |
| 53 | MOZ | 12 | 2 | 14 | 12 | 2 | 14 |
| 54 | NCA | 3 | 2 | 5 | 3 | 2 | 5 |
| 55 | NEP | 13 | — | 13 | 11 | — | 11 |
| 56 | NGR | 42 | 8 | 50 | 38 | 6 | 44 |
| 57 | NZL | 5 | — | 5 | 5 | — | 5 |
| 58 | PER | 14 | 16 | 30 | 14 | 16 | 30 |
| 59 | POL | 250 | 79 | 329 | 241 | 79 | 320 |
| 60 | POR | 10 | 1 | 11 | 10 | 1 | 11 |
| 61 | PRK | 48 | 9 | 57 | 41 | 9 | 50 |
| 62 | PUR | 3 | — | 3 | 3 | — | 3 |
| 63 | ROM | 165 | 81 | 246 | 164 | 79 | 243 |
| 64 | SEN | 32 | 2 | 34 | 30 | 2 | 32 |
| 65 | SEY | 10 | 2 | 12 | 9 | 2 | 11 |
| 66 | SLE | 12 | 2 | 14 | 12 | 2 | 14 |
| 67 | SMR | 17 | | 17 | 17 | — | 17 |
| 68 | SRI | 5 | — | 5 | 4 | — | 4 |
| 69 | SUI | 79 | 7 | 86 | 76 | 8 | 84 |
| 70 | SWE | 132 | 26 | 158 | 125 | 23 | 148 |
| 71 | SYR | 68 | 2 | 70 | 67 | 2 | 69 |
| 72 | TAN | 36 | 5 | 41 | 36 | 5 | 41 |
| 73 | TCH | 174 | 50 | 224 | 167 | 49 | 216 |
| 74 | TRI | 10 | — | 10 | 9 | — | 9 |
| 75 | UGA | 14 | — | 14 | 13 | — | 13 |
| 76 | USSR | 356 | 158 | 514 | 350 | 156 | 506 |
| 77 | VEN | 39 | — | 39 | 38 | — | 38 |
| 78 | VIE | 23 | 8 | 31 | 22 | 8 | 30 |
| 79 | YUG | 139 | 28 | 167 | 134 | 28 | 162 |
| 80 | ZAM | 41 | — | 41 | 40 | — | 40 |
| 81 | ZIM | 26 | 20 | 46 | 26 | 20 | 46 |
| | Total | 4,527 | 1,221 | 5,748 | 4,311 | 1,192 | 5,503 |

*Note:* In a number of sports reserves were included in the overall number of competitors.

**Data on the Number of Sportsmen Who Applied to and Actually Did Take Part in the Games**

| Sport | Sex | Entered | | Competed | |
|---|---|---|---|---|---|
| | | sportsmen | NOCs | athletes | NOCs |
| Athletics | Men | 783 | | 700 | |
| | Women | 305 | | 279 | |
| | Total | 1,088 | 73 | 979 | 70 |
| Rowing | Men | 363 | | 363 | |
| | Women | 184 | | 184 | |
| | Total | 547 | 25 | 547 | 25 |
| Basketball | Men | 144 | | 144 | |
| | Women | 72 | | 72 | |
| | Total | 216 | 14 | 216 | 14 |
| Boxing | Men | 287 | 52 | 273 | 51 |
| Canoeing | Men | 166 | | 165 | |
| | Women | 39 | | 39 | |
| | Total | 205 | 23 | 204 | 23 |
| Cycling | Men | 270 | 34 | 231 | 34 |
| Fencing | Men | 140 | | 136 | |
| | Women | 51 | | 51 | |
| | Total | 191 | 20 | 187 | 20 |
| Football | Men | 272 | 16 | 271 | 16 |
| Gymnastics | Men | 77 | | 77 | |
| | Women | 70 | | 70 | |
| | Total | 147 | 19 | 147 | 19 |
| Weightlifting | Men | 192 | 40 | 173 | 40 |
| Handball | Men | 168 | | 168 | |
| | Women | 84 | | 84 | |
| | Total | 252 | 14 | 252 | 14 |
| Field hockey | Men | 96 | | 96 | |
| | Women | 96 | | 96 | |
| | Total | 192 | 9 | 192 | 9 |
| Judo | Men | 187 | 42 | 186 | 42 |
| Wrestling | Men | 276 | 35 | 266 | 35 |
| Swimming, | Men | 369 | | 359 | |
| diving, | Women | 180 | | 178 | |
| Water polo | Total | 549 | 45 | 537 | 45 |
| Modern pentathlon | Men | 53 | 17 | 53 | 17 |
| Equestrian | Men | 73 | | 59 | |
| sports | Women | 10 | | 9 | |
| | Total | 83 | 11 | 68 | 11 |
| Shooting | Men | 247 | | 243 | |
| | Women | 5 | | 5 | |
| | Total | 252 | 39 | 239 | 38 |
| Archery | Men | 40 | | 38 | |
| | Women | 29 | | 29 | |
| | Total | 69 | 25 | 67 | 25 |
| Volleyball | Men | 120 | | 120 | |
| | Women | 96 | | 96 | |
| | Total | 216 | 13 | 216 | 13 |
| Yachting | Men | 204 | 23 | 199 | 23 |
| Total | Men | 4,527 | | 4,311 | |
| | Women | 1,221 | | 1,192 | |
| | Total | 5,748 | 81 | 5,503 | 80 |

*Note:* In a number of sports reserves are included in the overall number of competitors.

## Medical and Veterinary Control
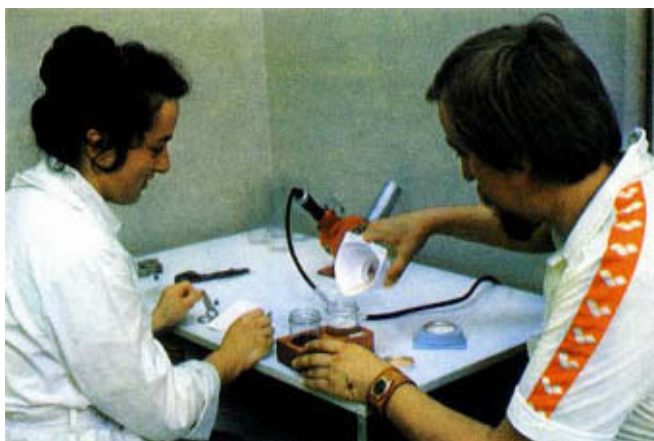
The organisation of doping control and femininity test, which were to be carried out in accordance with the Olympic Charter (Rule 27) and IOC Medical Commission rules, was one of the tasks of the Organising Committee. The doping control service was set up for this purpose.

The IOC Medical Commission issued a list of drugs and anabolic steroids which the athletes were prohibited from taking by the IOC. This list of drugs fell into five groups:

psychomotor stimulants, sympathomimetic amines, central nervous system stimulators, pain-killing narcotic preparations which contained general doping, and anabolic steroids.

The Doping Control Committee was organised in 1977 to meet the requirements of the IOC Medical Commission. It included 12 scientists, doctors and sports specialists. Prof. V. Rogozkin, a member of the IOC Medical Commission, was appointed chairman of the Doping Control Committee, which was a public body. It worked out organisational and methodological materials and helped organise medical control at the Games.

The doping control service began to function in 1980. Most of the members of the Doping Control Committee held leading posts in it, and it was headed by the committee chairman.

A Doping Control Centre was set up under this service for the Games. The building put up to house it in Moscow, fitted out with the latest equipment, was completed in mid-1979. In July of the same year the workers at the doping laboratory attached to the All-Union Research Institute of Physical Culture, which later on became part of the Doping Control Centre, began to get used to handling the equipment.

At the same time the doping control service opened doping stations at various sports installations and supervised the work of fitting them out with equipment. Services were also organised for transporting and looking after samples.

All in all there were 31 doping stations set up: 27 permanent and two temporary at the Moscow-Minsk Highway for the team-time trial and at the Grand Arena of the Lenin Stadium for jumping (individual competition), one was at the polyclinic in the Olympic Village (to take samples late at night) and one was a veterinary control station for taking samples from horses.

The doping control service had a laboratory for femininity tests. It was housed in a specially equipped room in the polyclinic at the Olympic Village, and its workers were mainly specialists from the Institute of Medical Genetics attached to the Academy of Sciences of the USSR.

The work of the doping control service was put to the test during the VII USSR Summer Spartakiade, when certain organisational and technical shortcomings came to light and were eliminated.

A meeting of the IOC Medical Commission was held in October 1979

in Moscow, at which representatives of the OCOG-80 reported on the extent to which the doping control service was ready for the Games. At the same time an international symposium "Doping Control in Sports" was held in Moscow, with 42 scientists from 10 countries taking part in it.

The doping laboratories of the All-Union Research Institute of Physical Culture, along with those of the Leningrad Research Institute of Physical Culture, conducted all the preparatory work for analysing the samples taken from the athletes.

Gasochromatographic and radio-immunological methods were used to screen for drugs. The chromato-mass-spectrometry method was employed to identify the substances used.

The preparatory research work conducted by the Leningrad doping laboratory in improving the radio-immunological method of determining anabolic steroids made it possible to considerably reduce the time it took to do the screening.

In the period from July 10 to 14, 1980, control samples were received from the IOC Medical Commission for identifying the presence of doping substances in biological media. The doping laboratories tackled this assignment successfully and the Doping Control Centre, pending a decision from the IOC Medical Commission, was officially accredited for conducting doping control at the Games of the XXII Olympiad.

The control procedure was as follows: the athlete, on receiving an invitation to take a doping control test, went to the doping station at the given sports installation, accompanied by a representative of the board of referees and judges. After being identified there, he would provide a sample in the presence of a doping station worker and IF and IOC Medical Commission representatives. The samples were then taken in sealed bags (documentation was transported in sealed suitcases) to the Doping Control Centre laboratory by special couriers (under guard) in cars with radiostations. A total of 477 car trips were made during the Games, 343 of which were for carrying the samples and 134 for the competitors.

All in all 1,667 athletes and 22 horses were checked during the Games. 43 athletes (modern pentathlon) were tested for the presence of alcohol.

During the Games the sportsmen taking part in the following sports were tested in accordance with the doping control rules approved by the IOC Medical Commission and agreed upon with the IFs. See table below.

Of the total number of athletes who had samples taken (1,667), 833 also underwent analysis for anabolic steroids.

All in all the Doping Control Centre laboratory made 9,302 tests.

The femininity test laboratory examined 995 competitors in sports restricted to women and they were all passed. The certificates of another 200 women which had been issued earlier were recognised as valid.

Alexandre de Mérode, president of the IOC Medical Commission, noted:

"During the Moscow Olympics not a single case has been registered of athletes using drugs or any other
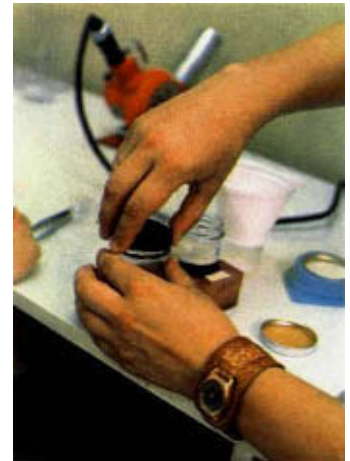






Samples being packed

| Sport | Samples planned to be taken | Samples actually taken |
|---|---|---|
| Athletics | 190 | 202 |
| Rowing | 60 | 60 |
| Basketball | 130 | 130 |
| Boxing | 44 | 44 |
| Canoeing | 55 | 55 |
| Cycling | 74 | 77 |
| Fencing | 72 | 72 |
| Football | 80 | 80 |
| Gymnastics | 39 | 42 |
| Weightlifting | 50 | 50 |
| Handball | 114 | 114 |
| Hockey | 52 | 52 |
| Judo | 32 | 32 |
| Wrestling | 100 | 101 |
| Swimming, diving, water polo | 216 | 218 |
| Modern pentathlon | 83 (+43 alcohol tests) | 83 (+43 alcohol tests) |
| Equestrian sports | 37 | 36 |
| Shooting | 35 | 35 |
| Archery | 22 | 22 |
| Volleyball | 132 | 132 |
| Yachting | 30 | 30 |
| Total | 1,647 | 1,667 |

substance as a drug. The IOC Medical Commission has no reproof for the organisation of this work. In this respect the Moscow Olympic Games were cleaner than any previous Olympic Games."

The OCOG-80 entrusted the Main Veterinary Department of the Ministry of Agriculture of the USSR on mutual agreement with organising veterinary control of the horses. A plan for special measures to be taken on these questions encompassed the period from 1977 to 1980. Veterinary certificates were sent to the NOCs in 1978.

The Veterinary Service was set up at the close of 1979. It included workers from the Main Veterinary Department of the Ministry of Agriculture of the USSR and the Moscow Veterinary Academy, on the basis of which quarantine of horses was organised.

Customs officers at check-up points received special instructions for supervising the bringing of horses from other countries into the USSR.

The OCOG-80 drew on the experience accumulated in preparing for and staging the Games in Mexico, Munich and Montreal in thoroughly analysing the Olympic requirements of sports installations. The organisers decided that, as a rule, not more than two sports were to be held in each of them, even when these were to be held in succession. The observance of this rule improved the organisation of the events and meant that it was not necessary to readjust the arenas during the Games more than was essential.

Despite the fact that there was a certain expansion in the programme of the Games of the 22nd Olympiad, its carefully thought-out structure and the distribution of sports among the arenas meant that 25 sports arenas could be used at these Games, i.e. not more than at the two previous Olympic Games.

The following table gives a list of the sports installations at which events in various sports were held.

Two arenas were prepared for each of the sports team (except football), with different seating capacities. Men's and women's team competitions were held at both arenas. This made it possible to hold the most interesting matches with capacity crowds.

The events demonstrated that the selection of sports installations was correct.

Control competitions, with young sportsmen from Moscow taking part, were organised in May-June 1980, on the decision of the Organising Committee, in order to check up on the preparation for the sports events. These were held in two stages: May 23-June 3 and June 10-19. They were held at all the Olympic sports installations in all the sports included in the Games programme.

In Tallinn the control regatta was held at the same time.

During the control competitions the sports directorates, the boards of referees and judges and the main secretariat service worked precisely according to the specific timetable worked out for the coming Olympic Games. The "Olympiad" ACS helped process the applications and prepare protocols for the competitions. The protocol service of the OCOG-80 presented prizes to the winners.

These competitions helped perfect the interaction of all the units and services of the system administering the Olympic Games, while the boards of referees and judges worked on streamlining certain problems in real-life conditions.

In the course of the competitions it came to light that certain service premises and some of the means of communication at the Grand and Minor Arenas and Sports Palace of Lenin Stadium as well as at the Indoor Stadium and at the Olympiisky Swimming Pool were insufficiently prepared. The measures taken helped to eliminate all these shortcomings in good time. All the services and directorates were fully prepared for their work at the Games.

Mytishchi

Dybenko Street

Leningrad Highway

Lavochkin Street

Dmitrov Highway

Yaroslavl Highway

Volokolamsk Highway

Leningrad Avenue

Zhivópisnaia Street

Ring

Sadovoye

Olympic Avenue

Mir Avenue

Stromynka Street

Shchelkovo Highway

Zhukov Avenue

Gorki Street

Rublevo Highway

Mozhaisk Highway

Enthusiasts Highway

Sadovoye Ring

Riazan Avenue

Michurin Avenue

Komsomolski Avenue

Vernadski Avenue

Lenin Avenue

Volgograd Avenue

Proletarski Avenue

Profsoiuznaia Street

Warsaw Highway

Kashira Highway

196

| Sport | Sports installation at which competitions were held |
|---|---|
| Athletics | Grand Arena of Lenin Stadium, walking and marathon routes |
| Rowing | Rowing Canal |
| Basketball | Olympiisky Indoor Arena, Centr al Army Club Sports Palace |
| Boxing | Olympiisky Indoor Arena |
| Canoeing | Rowing Canal |
| Cycling | Olympic Cycling Track, Olympic Cycling Ring, Cycling route on the Minsk Highway |
| Fencing | Central Sports Club of the Army Complex (CSCA) (fencing hall) |
| Football | Grand Arena of Lenin Stadium, Dynamo Central Stadium, Kirov Stadium in Leningrad, Kiev Republic an Stadium, Dynamo Stadium in Minsk |
| Gymnastics | Sports Palace at Lenin Stadium |
| Weightlifting | Izmailovo Sports Palace |
| Handball | Sokolniki Sports Palace, Dynamo Sports Palace |
| Hockey | Dynamo Minor Arena, Young Pioneers Stadium |
| Judo | Sports Palace at Lenin Stadium |
| Wrestling | Central Sports Club of the Army Complex (wrestling hall) |
| Swimming, diving and water polo | Olympiisky Swimming Pool, Swimming Pool at Lenin Stadium |
| Modern pentathlon | Trade Union Equestrian Complex, Central Sports Club of the Army Complex (CSCA) (fencing hall), Dynamo Shooting Range (Mytishchi ), Olympiisky Swimming Pool |
| Equestrian sports | Trade Union Equestrian Complex, Grand Arena of Lenin Stadium |
| Shooting | Dynamo Shooting Range (Mytishchi) |
| Archery | Olympic Archery Fields at Krylatskoye |
| Volleyball | Minor Arena of Lenin Stadium, Druzhba Arena at Lenin Stadium |
| Yachting | Yachting Centre in Tallinn |

# Training Sessions

Sportsmen wanting to train had at their disposal 56 sports installations, 49 of which were in Moscow and 13 of which were simultaneously used for holding regular events (12 of these were in Moscow). The sports facilities already existing in Moscow, Tallinn, Leningrad, Kiev and Minsk were mainly used for training purposes.

When selecting them, the Organising Committee bore in mind that they had to be situated near the Olympic Village or sports arenas intended for events. Other considerations taken into account were that gymnastic apparatus had to be moved round and halls changed for team sports, that an optimal number of sportsmen should simultaneously train at one sports facility, and that athletes desiring to train away from onlookers should be able to do so. All the equipment and the floor covering at the training gyms fully corresponded to that in use at the sites of the events.

All the training facilities had locker rooms, showers, massage and medical rooms. Training sessions in different sports did not overlap in the same gym.

The sports complex of the Olympic Village was mainly intended for warming-up. However, gymnasts, track and field athletes and basketball players had gyms specially set out for them. Sportsmen also had three football fields, a pool for diving and a gym where sportsmen could train.

### The Number of Sports Facilities Set out for Sports Training

| Sport | Total | Including: | |
|---|---|---|---|
| | | sports sites in which events were held | sports sites for additional training |
| Athletics | 8 | 1, 2 walk courses, 1 marathon course | 4 |
| Rowing | | | |
| Basketball | 5 | | 5 halls (30x26 m, 35x22 m, 36x18 m, and two 42x24 m halls) |
| Boxing | 8 | | 8 (18 rings) |
| Canoeing | 2 | 1 | 1 |
| Cycling | 3 | One cycling track, two road routes | — |
| Fencing | 1 | — | 1 (30 pistes) |
| Football | 7 | — | 7 |
| Gymnastics | 7 | — | 7 (13 sets of apparatus) |
| Weightlifting | 1 | — | 1 (40 platforms) |
| Handball | 2 | — | 2 (two 42x24 m halls) |
| Hockey | 3 | 2 | 1 |
| Judo | 1 | — | 1 (24 Judo-mats 8x8 m) |
| Wrestling | 1 | — | 1 (20 mats) |
| Swimming, diving and water polo | 11 | 2 (one bath for diving and one pool for water polo) | 9 (8 swimming pools for swimming and water polo, 1 bath for diving) |
| Modern pentathlon | 7 | 2 1 cross-country course | 3 1 cross-country course |
| Equestrian sports | 1 | 1 (6 grounds for dressage, 6 show jumping fields, 1 cross-country course, 1 gallop round, 1 indoor ring | |
| Shooting | 1 | 1 | — |
| Archery | 1 | — | — |
| Volleyball | 2 | 2 (6 halls) | 2 (4 halls) |
| Yachting | 1 | — | — |

The list of sports facilities for training is given in Chapter II "Construction and Renovation of Olympic Facilities".

From the recommendations of specialists and experience accumulated in training the world's top athletes, the OCOG-80 proposed and then agreed with the IFs on the duration of daily training sessions on the eve of and during the Games.

| | | |
|---|---|---|
| Athletics | — | two two-hour sessions |
| Rowing | — | two 1 ½-hour sessions |
| Basketball | — | two 1 ½-hour sessions |
| Boxing | — | two two-hour sessions |
| Canoeing | — | two 1 ½-hour sessions |
| Cycling, road | — | two three-hour sessions |
| track | — | two 1 ½-hour sessions |
| Fencing | — | one 2-hour session |
| Football | — | two 2 ½-3-hour sessions |
| Gymnastics | — | two 2 ½- and 1 ½-hour sessions |

| | |
|---|---|
| Weightlifting | — one 3-hour session |
| Handball | — two 1 ½-hour sessions |
| Field hockey | — two 1 ½-hour sessions |
| Judo | — one two-hour session |
| Wrestling | — two 1 ½-hour sessions |
| Swimming and diving | — two 2-hour sessions |
| Water polo | — two 1 ½-hour sessions |
| Modern pentathlon | — one 1 ½-2-hour session for each of the five disciplines |
| Equestrian sports | — one 2 ½-hour session |
| Shooting | — two 1 ½-hour sessions |
| Archery | — two 1 ½-hour sessions |
| Volleyball | — two 1 ½-hour sessions |
| Yachting | — one 3 ½-4-hour session |

The first draft of a summary timetable for training sessions was compiled in September 1979. A special form was sent to all the NOCs, which, when filled in by future participants at the Games, gave the Organising Committee an opportunity to establish the time of the beginning and the duration of training in Moscow for the sportsmen of a particular country. Such information was received from many NOCs by February 1980. However, some of the NOCs sent this data in late.

The staff workers at the Training Service constantly kept the sports training facilities under a watchful eye. By the control date—April 1, 1980—most of the sports training facilities were ready. The Organising Committee approved them all between June 16-26, 1980.

In June, when all the forms had been received from the NOCs, a specific timetable of training sessions was drawn up.

National sports teams began training the day the Olympic Village was opened and this continued until the end of the Games. The overall number of sportsmen who took part in the 6,142 training sessions came to over 5,500. The bulk of the sessions took place between July 10 and July 19.

On the first few days certain difficulties in training arose because not all of the NOCs had given information on their sportsmen beforehand, while the closing date for receiving the forms had been prolonged. Moreover, some of the team coaches kept changing the time and place of training provided in the timetable. Due to religious considerations, sportsmen from certain Moslem countries held some of their training sessions late in the evening or even at night, which hadn't been envisaged beforehand. Staff workers at the Training Service eliminated the difficulties that arose making prompt decisions to suit everyone.

# Sports and Technical Facilities

From the very beginning of its activity the OCOG-80 dealt with fitting out the sports arenas with the most up-to-date sports and technical facilities, which included refereeing and registering apparatus, as well as other instruments, devices and technical facilities for objective refereeing; referee videorecording apparatus; information scoreboards and other facilities; sports gear and equipment, and the floor covering at the sports facilities.

The Main Department for Manufacturing Sports Goods (Glavsportprom), attached to the Sports Committee of the USSR, (the General Supplier to the 1980 Olympics), coordinated the work of preparing the sports and technical facilities. This decision was based on the fact that Glavsportprom and the All-Union Planning and Technical and Experimental Design Institute for Sports and Tourist Goods (AUISTG), also drawn in on the work, had accumulated a great deal of experience in fitting out sports installations with modern refereeing and information apparatus and equipment, as well as the experience in servicing them at major competitions. Glavsportprom and the AUISTG also have a considerable amount of experience in co-operating with foreign firms working in the same field.

All questions connected with the sports and technical facilities to be used at the Games were tackled by the Organising Committee on agreement with the IFs.

The Organising Committee tried to fit out the Olympic facilities and arenas with the most up-to-date and high-quality sports and technical wares. Thus in choosing what to install or developing a technical project, it took into consideration the development prospects of sports technology.

Moreover, the OCOG-80 selected the most wide-spread gear and equipment in the world for the Games. Thus in the events and while training sportsmen often came across "old friends" side by side with new articles, sports apparatus and other gear.

Two years before the Games, on July 20, 1978, the OCOG-80 sent all the NOCs and IFs letters informing them of the kind of sports equipment, gear and floor covering (mentioning the firms involved) that would be used at the Games. In this way equal conditions were provided for sportsmen of all countries in the preparations for the Moscow Olympics.

The work of fitting out the various sports installations began with drawing up a list of the referee and information apparatus and the equipment to be used in every sport. Besides the official accounts of the organising committees of Munich and Montreal, and of the world and continent-wide championships held in various sports in 1973-1975, the Organising Committee made extensive use of the experience accumulated in organising major international and national competitions in the USSR. The list of referee and information apparatus alone included over 130 systems and a range of instruments. Initial requirements were worked out for every system, and for every kind of apparatus, with due account taken of the way particular technology was developing and of changes in the rules of competitions contemplated by certain international sports federations.

At the next stage the developers and manufacturers of these systems and apparatus were determined.

In 1976, from lists and initial requirements, AUISTG specialists worked out the main documentation on installing sports and technical facilities at every sports installation. These included detailed technological requirements on the apparatus and the data which had been taken into consideration when these premises themselves were planned. These documents made it possible to resolve the problems of fitting out sports installations with sports and technical facilities on a large scale.

In order to familiarise themselves with the achievements of foreign firms in developing new kinds of sports equipment and technical facilities, as well as with a view to selecting samples of sports and technical facilities which could be used at the Games, the Organising Committee, together with Glavsportprom and the USSR Chamber of Commerce and Industry held an international exhibition "Technology for the Olympics" in Moscow in September 1976. 230 foreign firms and many Soviet organisations took part.

In 1977 the OCOG-80 continued its work on the list of sports and technical facilities, taking due account of talks with foreign firms and deliveries from Soviet enterprises. As a result lists of sports and technical facilities necessary for the Games in 21 sports, as well as for training, were drawn up and agreed upon with the IFs. They included 909 articles, 606 of which were to be delivered by Soviet enterprises.

The OCOG-80 also determined what, in terms of new models of
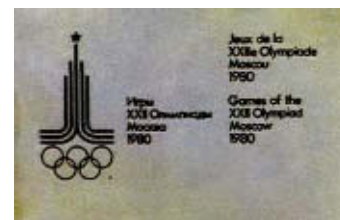
# Information Devices at the Sports Arenas

equipment and sports gear, had to be designed and put into practice by Soviet enterprises and drew up a summary schedule for this.

At the same time talks were conducted with over 160 foreign firms to single out more than 40 foreign enterprises and companies, the potential official suppliers to the Moscow Olympic Games.

In each individual agreement on delivering equipment the OCOG-80 informed the IFs about the selected type of equipment, sports gear, apparatus or article and the firm-manufacturer.

In April 1978, the Organising Committee, Glavsportprom and the USSR Chamber of Commerce and Industry held a second specialised international exhibition of sports gear and equipment in Moscow. This was Sport-78, in which 193 of the largest firms in 21 countries took part, some of which had already been made official suppliers, along with Soviet enterprises. The exhibition helped determine practically all the kinds of sports gear, equipment, apparatus and synthetic floor covering to be used at the Games.

Most of the sports and technical facilities intended for the Games were put to the test at the VII USSR Summer Spartakiade. New articles were tested and were, as a rule, approved by IF officials and technical delegates. Some of them had to be updated for the Games in accordance with remarks made by IF representatives, referees and sportsmen.

All the information devices used at the Games may conditionally be divided into several kinds: general-purpose scoreboards (stationary or mobile), specialised scoreboards (used for one or several sports), signs, and demonstration boards.

Computer-controlled general-purpose scoreboards promptly informed spectators, sportsmen, referees and journalists on the events taking place. These fell into six types:

1) stationary lit-up tabular;
2) stationary lit-up tabular with matrix lines;
3) stationary lit-up tabular with one matrix line;
4) stationary electro-mechanical (blinker) tabular;
5) mobile lit-up tabular;
6) video matrix (only at the Grand Arena of Lenin Stadium).

The type of scoreboard, its number of demonstration panels and control panels, the use of Russian or Latin script and the use of various other effects were selected to take account of the IF requirements, the specific nature of the sport in question, and peculiarities of the sports arena and its use after the Games.

Two scoreboards were installed at sports installations where one panel was not visible to all the spectators, but there was only one control panel (the possibility was envisaged of displaying simultaneously the same or different information). Mobile scoreboards were used at certain arenas where there was no need for stationary ones after the Games.

It was inexpedient to install electro-mechanical (blinker) scoreboards outdoors or at swimming pools, because of the possibility of their being damaged by rain getting into their electro-mechanical elements. And vice versa, when events in certain sports were held indoors, and especially in those where information does not change very often (weightlifting, volleyball, etc.) it was expedient to use electro-mechanical scoreboards, with their low electricity consumption and insignificant heat release.

The volume of information displayed on the scoreboards was determined beforehand to take account of the IF requirements.

Twenty-two of the 26 general-purpose scoreboards used were manufactured at the plants of the foreign trade enterprise Electroimpex (Hungary): VBKM-Villes, Folk-Djem and Ravis. Besides the 19 stationary general-purpose scoreboards, Electroimpex installed three mobile general-purpose scoreboards for the first time in the history of the Olympic Games. They

to record on the printer any information report previously prepared for displaying on the scoreboard or stored in the computer's memory unit.

Unique in its possibilities, the videomatrix scoreboard was delivered and installed by Hungarian specialists in the Grand Arena of Lenin Stadium. Every one of its more than 56,000 lamps was controlled by the P-1010 computer. Highlights from track and field, equestrian and football events were displayed on its two 10x25.5 m panels (120 lamps arranged vertically and 234 horizontally), as if on a huge TV screen, along with digital and written information. Wide use was made of special effects (the scoreboard had 16 degrees of image-brightness). The picture could be either static or moving.

The material displayed was provided by cinecameras or TV cameras installed at the stadium, by video-taperecorders and the slide projector or directly by the Central Television network.

The enormous range of technical possibilities possessed by the video-matrix scoreboard made it possible to show information in a most interesting way, drawing the attention of spectators to the most interesting events. It was particularly valuable during the Opening and Closing ceremonies of the Moscow Olympics. Close-ups of the faces of speakers and guests of honour, and episodes from the various events which took place during the Games at different sports arenas all appeared on the screen with simultaneous translation of the text into English and French.

**Structural Diagram of the video-matrix Scoreboard Controls**

1—scoreboard
2—control unit
3—videocontrol unit
4—P-1010 computer
5—printer
6—puncher
7—perforator
8—memory unit employing flexible magnetic discs
9, 10, 11—video-terminals for displaying the results in running, jumping and throwing
12—video-terminals for feeding television with information
13—specialised rotating scoreboard
14—device for measuring discus, javelin and hammer throwing results
15—information input device—specialised scoreboard panels
16—device for measuring long-jump distances
17—cine projector
18—slide projector

were mounted on motor-car trailers and transported from one sports arena to another by lorry (control panels were installed in special buses).

Mini-computers of the VDDS type, manufactured by the Hungarian enterprise Videoton, were used to process the results of the events and to compile information reports for all the scoreboards, except the video-matrix one.

All the scoreboards used had a sufficient number of remote-control devices: one or several control panels which employed video-terminals, as well as mechanisms for reading off from the perforated tape and for feeding on information to it, printers, and memory units (one or several) on flexible magnetic discs, used to store information and compile programmes.

The scope of the scoreboard control panel made it possible: to print in any digit or any letter of the Russian or Latin alphabet into any cell of the display field;
to cancel certain symbols, groups of symbols, a line, groups of lines or the entire picture;
to flash individual symbols, groups of symbols, a line, groups of lines or the entire picture across the screen;
to shift upwards line by line, any lines or several groups of lines, the entire picture or three "combined" pictures on the scoreboard (for instance, records which only fit onto three scoreboards);
to move the text from right to left on any of the lines;
to store in the memory unit up to ten information reports prepared beforehand;
to display on the scoreboard information recorded on perforated tape and to record the information report on perforated tape so as to subsequently feed it on to the scoreboard;
to display in image on the scoreboard gradually, subsequently filling in the celles (so-called "typewriter" effect);

19—TV cameras
20—reproduction desk
21—TV monitor
22—video-taperecorders
23—video-generators
24—TV director panel

At the request of the OCOG-80 and the USSR State Television and Radio the designers of the referee apparatus system additionally supplied devices for feeding information directly onto TV channels. They developed special video-generators which converted this information into a TV picture with a corresponding transformation of the scoreboard format into that of the TV screen. The software made it possible to feed the information at that moment on the scoreboard, as well as that stored in the magnetic discs onto the TV channel.

The software made it possible to feed any of the 10 formats of information reports (and on the matrix scoreboard twenty)—prepared beforehand to be displayed on the scoreboard—onto the video-generator at the request of an operator. The information was channelled both in Russian and other languages.

It was possible to display the results of teams or individual sportsmen on the scoreboard, directly from the devices which determined these results.

When showing the running, swimming or cycling heats on the TV the "running" time was simultaneously shown on the TV screens from the moment it began and then the result of the winner (at the end of each intermediate lap this time "froze" for a few seconds so as to give viewers a chance to compare the race with other laps or heats). For this purpose the stopwatch apparatus was additionally supplied with a device converting the stopwatch readings into TV videosignals.
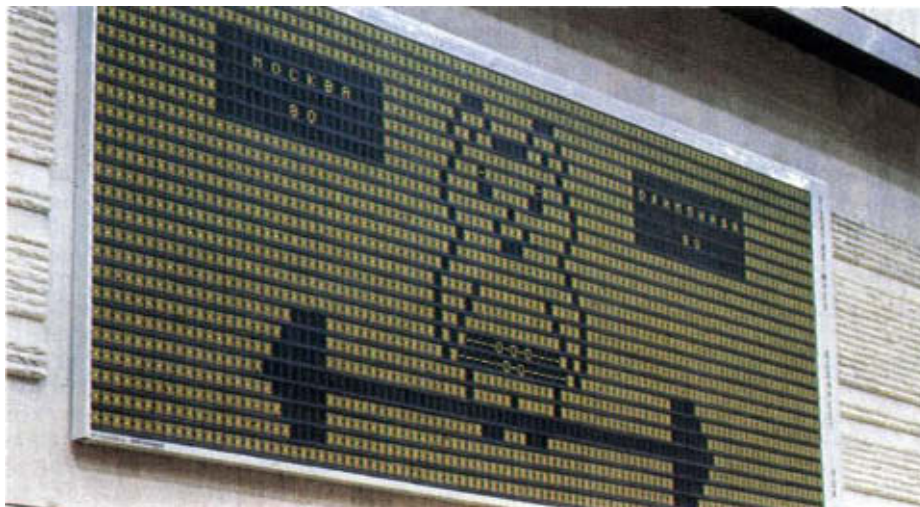
The instrument for measuring the results in the javelin, discus and hammer throwing events had a similar additional device which showed the result to TV viewers immediately.

Wide use was made at the Olympic events of specialised scoreboards operating independently of or together with the general-purpose scoreboard (total of 89) as supplementary or duplicating units, as well as in a set with the refereeing apparatus. Special-ised scoreboards, which mainly work-ed on lamps and were intended for specific sports, gave digital informa-tion. The so-called demonstration boards used at the Games were blown-up copies of the referee's re-sults board. They gave spectators prompt information on the competi-tions. This information was displayed on large posters filled in either by an artist or an operator from among the auxiliary referee personnel, using magnetic letters.
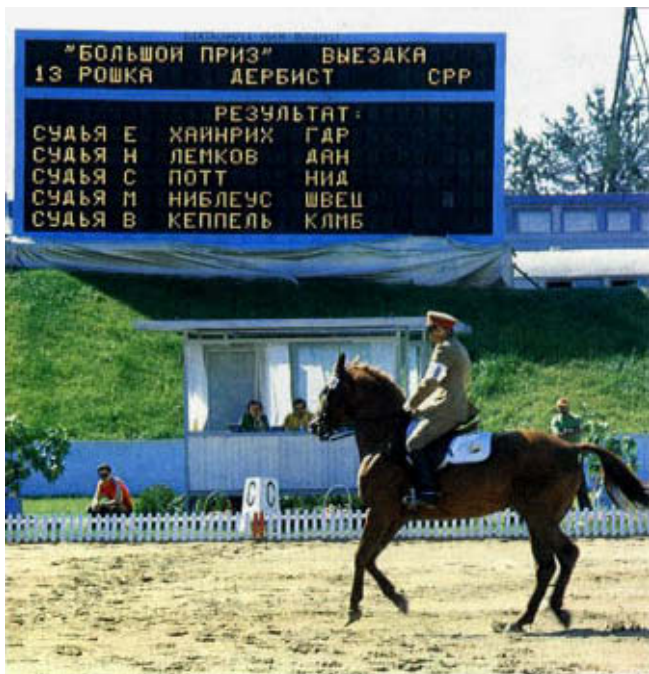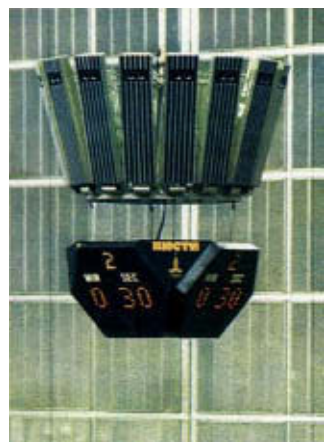
Score-keeping equipment in action during the judo competition at the Sports Palace of the Central Lenin Stadium

Multipurpose letter-digital scoreboard at the Trade Unions Equestrian Complex in Bitsa

Four-panel display board in the boxing hall of the Olympiiski Indoor Stadium

Scoreboard control panel at the Olympiiski Swimming Pool

# Referee Apparatus



The need to develop technical systems in order to make refereeing more objective has grown in urgency of late due to the increasing closeness of sportsmen's results. It has also been prompted by the need to increase accuracy and objectiveness in determining a sportsman's place in a run in cases when the gap between the athletes finishing is so tiny that it is beyond the capacity of the time-registering device.

The situation is similar in sports where refereeing involves subjective evaluation of the results, primarily in team games and matches. Here the already existing means of refereeing have had to be improved or new ones used.

The growing complexity of the technical facilities used in sport meant that the organisers of the 1980 Olympic Games had to make them work more reliably. This especially concerned measuring equipment. Therefore all the measuring apparatus used at the Games was developed on a most up-to-date basis (including some that made use of microcircuits of average or extensive integration). In most cases there was a fall-back for the systems used at the Games and for some of the instruments.

As is well known, one of the criteria for judging the quality of information-measuring systems and the referee-information apparatus which forms part of them, is the degree of automation in determining and processing the results of events. This process was automated in 13 sports at the Moscow Games (seven in Montreal). The preliminary processing of results for the scoreboard was automated in 21 sports (five in Montreal).

At the Games the organisers of the events used chronometres with indicators and digital chronometres, photofinish and videofinish.

The desk digital chronometre prints two to three results per second and has a memory unit making it possible to reproduce the results registered with a discreteness of up to 0.01 sec. Chronometres with indicators boast the same characteristics. Both chronometres, successfully used at the Games, have inputs for feeding signals from the starting device and a lightbeam transducer or from the electrocontact devices at the finish (or at some lap over the distance).

The photofinish apparatus, fixing the events in time at the finish line, was especially useful in determining



**Time-keeping equipment and photo-finish devices at the Grand Arena of the Central Lenin Stadium**

**Throw measuring equipment at the Grand Arena of the Central Lenin Stadium**

precisely the time and place of each sportsman. It was used at track and field, cycling and rowing competitions.

The "videofinish" apparatus, which presented a view of the situation in slow motion and stills (with every still carrying a time mark), also worked well at the Games.

A triple back-up system for instruments and apparatus was a feature at the sports installations, used to provide a 100-per cent guarantee in determining results in track and field, rowing and cycling events.

Digital signal generators were used at the Games to show the actual time on the scoreboards while video-generators were used on TV screens.

Soviet-made chronometres were used in most of the sports. But considering that a number of international sports federations have for many years been using Omega, Longines, Hoyer Leonidas (all Swiss), Junghans (West German), and Seiko (Japanese) apparatus for determining precision time, the Organising Committee decided to use the timing apparatus of the given Swiss firms, united into the company Swiss Timing. According to an agreement concluded in 1977 the Organising Committee entrusted Swiss Timing with the task of organising and providing precision timing in the track and field, swimming, rowing and canoeing, cycling, equestrian sports and modern pentathlon (in swimming, horseback riding and cross-country running).

Swiss Timing supplied all the necessary apparatus and serviced it. Omega Photofinish determined the time shown by the athletes and registered the order in which they arrived at the finishing line, presenting the referees with a photodocument (in order to improve the reliability of this apparatus it had a back-up "Photofinish" and "Videolongines" video-recording apparatus).

In other sports Soviet-made ISTG apparatus was used for timing, which in its functional possibilities and technical characteristics was manufactured on the level of the best foreign models and was approved by the relevant IFs.

Referee track-and-field apparatus developed and delivered by specialists from the Moscow Power Institute, particularly for high jumping and vaulting, was highly commmended by the International Amateur Athletics Federation (ISAAF). The judges no longer had to raise the plank knocked off by the athlete manually. It was placed into special clamps, a button pressed and the plank was lifted up and smoothly lowered into place. By pressing another button the judge could shift the plank to the next height. The same group of specialists developed apparatus to provide automatic measuring in the long and triple jumps. The judge marked the imprint left by the jumper with a special light radiating peg. An optical device moving along the edge of the pit "caught" the infra-red signal coming from the peg, calculated the result and instantaneously showed it on a special display on the judge's desk and on a specialised rotating scoreboard for spectators. This information was automatically recorded in the memory unit of the computer controlling the scoreboard of the sports arena.

Special electronic scales, with a weight-range of 0-2 kg, 0-10 kg and 0-200 kg, developed and manufactured by the Moscow Institute for Designing Test Machines, Instruments and Measuring Facilities, were used for precision weighing of the bars, as well as of the sportsmen themselves in those sports in which weighing was part of the rules (weightlifting, boxing, wrestling). The ISTG staff workers developed and manufactured an original device for returning the discuses, javelins and hammers from the field to the sector, which worked very well during the Games. The results in these events were measured with apparatus developed by the Carl Zeiss Jena (GDR) specialists.





**Finish registering technology at the Olympic Velodrome**

**Score-keeping equipment in action at the fencing competition**

**Range officer's control console**

## The Video-Recording System

## Sports Gear and Equipment

Although TV cameras have long and widely been in use in the study and training process, their introduction into refereeing has been retarded by certain IFs. But closed-circuit systems of referee video-recording were used during the Games of the XXII Olympiad in track-and-field, gymnastics, rowing and canoeing, cycling, weightlifting, judo, wrestling, swimming, diving and yachting (at the Montreal Olympics it was used in track-and-field, rowing, cycling and swimming events).

The referee video-recording systems made it possible to reconstruct any episode in the contest with conventional or rapid speed, as well as with stops. They allowed referees to take more substantiated decisions in debatable situations, while members of the appeal jury could analyse their correctness.

Work on developing the closed-circuit TV systems included the following stages:

analysing suggestions made by firms and selecting technical facilities (with a view to using them after the Olympics);

working out methods and regulations for referee video-recording the competitions in accordance with the IF rules;

selecting and training specialists.

Specialists from Soviet research institutes and workers at sports organisations, as well as enterprises in Moscow and Leningrad, were invited to join forces in developing these systems.

The specialists decided to equip the systems with hardware made by the Japanese firm Akai Electric Co. Ltd. As an official supplier to the Games the firm provided the OCOG-80 with 62 portable video-taperecorders, 52 colour and 6 black-and-white TV cameras, two apparatus for electronic clipping of recordings, and various accessories.

The Soviet-made colour TV sets Elektronika Ts-430, Shil-Yalis and Rubin-714 were used for viewing video-recordings.

Specialists from the All-Union Research Institute of Physical Culture (AURIPC) and similar Soviet institutes with an extensive experience in this field were entrusted by the Organising Committee with working out methods and regulations for referee video-recording the events.

The system was serviced by 74 specialists, divided into groups to work at various sports installations.

The total volume of video-recordings came, time-wise, to 730 hours.

There were more models of sports gear and equipment (909 types) used at the Games of the XXII Olympiad than at any previous Games. In athletics, for instance, practically all the shot-puts existing at the time, manufactured by the world's leading firms, were represented for the first time ever. Thus, male athletes had five models to choose from (three of them came in five different diameters), and women could choose from three models (each of which came in four different diameters).

There were 12 models of men's javelins, all of which were of the gliding type with a flight range from 60 to 100 m (models with a flight range of 100 m were used for the first time). Women could choose from ten available models (with a flight range from 45 to 70 m).

Discus and hammer throwers had the same choice: both men and women had nine discus models to choose from, and there were seven hammer models for men.

Stands with turning targets, fitted out with what was principally a new automated system, were used for the first time in the 25m rapid pistol fire events.

There was a new Soviet-made model of the weight used in weightlifting, with rubber-covered coloured discs.

The gymnastics apparatus (except for the asymmetric bars and floor boards) for the first time in the Olympic history was manufactured just by one country, the Soviet Union.

The Organising Committee asked the international sports federations concerned for their opinion on the balls to be used in the volleyball, basketball, handball, football, water polo and field hockey events and received lists of models approved or sanctioned by them, as well as of the recommended manufacturers of these balls. It then conducted talks with these firms about the deliveries conditions for these balls and from the competitive offers made concluded the corresponding agreements.

The only exception were the handball and football federations which supplied models of balls they themselves had selected.

In connection with the International Yacht Racing Union's decision to make available to those taking part in the Olympic regatta not only centreboarders of the Finn but also of the 470 Class, the OCOG-80 began building these yachts at the experimental shipyard in Tallinn.

In view of the US Ministry of Trade ban imposed at the beginning of 1980 on the export of goods made by

Rule 42 of the Olympic Charter states: "Each IFs recognised by the IOC has full control of the technical direction of its sport." In accordance with Rule 43 of the Charter, the IFs appoint the necessary number of technical officials (referees, judges, timekeepers and inspectors) as well as members of the board of referees and judges.

At the December 1979 Session of the IOC Executive Board in Nagoya, as has already been mentioned in this chapter, it was worked out, on agreement with each IF, how many officials (including the IF leadership and technical delegates) would take part from each IF in staging the events of the 1980 Olympics.

All in all, 1,247 IF officials— presidents, general secretaries, technical delegates, members of the board of referees and judges and technical officials (referees)—from 77 countries took part in refereeing the Games of the XXII Olympiad.

| | Number of countries | Number of IF officials |
|---|---|---|
| Europe (including USSR) | 25 | 993 |
| Asia | 15 | 57 |
| Africa | 15 | 42 |
| America | 20 | 129 |
| Australia | 2 | 26 |

American firms for the Moscow Olympic Games, the Organising Committee bought certain types of equipment for the swimming, water polo and track-and-field events from the Yugoslav Sport combine and the Austrian firm V. Stipkowic.

**Turnable targets for 25-m rapid fire pistol**

**Scoreboard and barbell at the Izmailovo Sports Palace**

Representatives from countries whose NOCs did not take part in the Games also worked on the board of referees and judges and on the jury. For instance, there were 24 such representatives from the USA, 14 from the FRG, 18 from Japan and so on.

In keeping with tradition, the largest number of referees and jury members, as at previous Games, were representatives of the country in which the Games were held.

The work of the boards of referees and judges, and of the jury, was fully

## IF Officials and Soviet Auxiliary Personnel at the Games

| Sport | Number of countries from which IF officials arrived | Presidents, general secretaries, technical delegates | Jury members and IF technical officials | Soviet auxiliary personnel |
|---|---|---|---|---|
| Athletics | 22 | 4 | 204 | 220 |
| Rowing | 24 | 4 | 38 | 79 |
| Basketball | 25 | 4 | 46*** | 75 |
| Boxing | 54 | 4 | 39 | 48 |
| Canoeing | 19 | 3 | 44* | 111 |
| Cycling | 10 | 5 | 37 | 53 |
| Fencing | 18 | 4 | 61 | 165 |
| Football | 41 | 4 | 67 | 16 |
| Gymnastics | 18 | 4 | 65 | 68 |
| Weightlifting | 24 | 3 | 30* | 70 |
| Handball | 20 | 4 | 52 | 62 |
| Hockey | 16 | 4 | 39 | 61 |
| Judo | 22 | 3 | 33 | 35 |
| Wrestling | 31 | 4 | 71 | 67 |
| Swimming, diving and water polo | 34 | 5 | 144* | 80 |
| Modern pentathlon | 10 | 3 | 31** | 82 |
| Equestrian sports | 15 | 5 | 14 | 98 |
| Shooting | 22 | 4 | 32 | 150 |
| Archery | 7 | 3 | 9* | 43 |
| Volleyball | 22 | 4 | 48 | 75 |
| Yachting | 10 | 4 | 11 | 236 |
| Total: | | 82 | 1165 | 1894 |

Notes:* Account has not been taken of the presidents, general secretaries and technical delegates included in the jury.
** Including members of the jury on duty at other sports events.
*** Including guests to the Games of different categories who refereed events.

in keeping with the Olympic Charter and IF rules.

All the judges and the referee auxiliary personnel of the Games of the XXII Olympiad were provided with uniforms supplied by Adidas (France). This comprised a coat or jacket, trousers, footwear, shirt, tie and a rain cape for those who worked outdoors. Jury members wore red jackets and IF referees—yellow ones with a stripe down the sleeve. The referee auxiliary personnel sported green jackets, also with a stripe down the sleeve.









Technical officials at the Olympiiski Swimming Pool

Hockey match officials

A boxing judge

Basketball match officials

## Training the Soviet Judges, the Auxiliary Personnel, and the Service Workers

In 1976 in order to draw the most qualified Soviet referees into working at the Games and to train them in the best possible way, the OCOG-80 together with the USSR sports federations announced a national "Olympic Referee" competition in various sports.

In the three years that followed over 500,000 summer-sport referees, including 3,500 national-category and nearly 12,000 republican-category referees, took part in this competition.

While officiating events, the referees who had entered this competition perfected their methods, studied referee terminology in the official languages of the corresponding IFs and took part in seminars.

The competition had three rounds: the first was in 1976, the second in 1977 and the third in 1978.

Committees were set up all over the country which together with the sports federations of the USSR and the board of referees and judges in Olympic sports began training referees in order to pick out the best of them.

With the beginning of the competition the number of special seminars for referees held in the USSR increased considerably and their quality improved. Over 1,000 seminars were held annually in the Union republics alone. Seminars on the eve of the events proved particularly helpful. Of great importance were the analysis of the events and the summary reports made by the main judges at sessions of the presidiums of the national boards of referees and judges.

In 1977-1979 international seminars of referees handling a number of sports (shooting, cycling, rowing, archery, athletics, weightlifting, fencing, etc.) were held in the USSR and other countries. Many of the Soviet referees went at this time to major international competitions which helped increase their experience.

In all three rounds of the "Olympic Referee" competitions the best referees were picked out by using objective criteria to judge their marks. The referee's work was evaluated by the amount of points he received for his refereeing.

From the results of the three rounds the jury determined 1,042 competition winners among whom were national- and international-category referees.

Alongside the competition winners 2,600 of the most qualified Soviet referees were selected. These had helped officiate the VII USSR Summer Spartakiade and then most of them went on to work at the 1980 Olympics (mainly as auxiliary personnel).

Programmes and methodological material were worked out for seminars attended by the Soviet judges and referee auxiliary personnel, as well as for the seminars they had attended during the VII Summer Spartakiade of the Peoples of the USSR, and official instructions were also drawn up.

At the VII USSR Summer Spartakiade the judges and referee auxiliary personnel demonstrated that they were highly trained, organised and disciplined, and were thus highly commended by the IF officials present at the Games.

It was the opinion of the IF officials that the 396 Soviet referees included in the number of IF technical officials and jury members (from 80 Soviet cities) and the 1,894 Soviet referee auxiliary workers at the Games, successfully tackled their duties.

The Soviet judges and the referee auxiliary personnel were brought together in the events support service, set up by the beginning of the Games under the Sports Department.

Besides this, five more services were set up: the main secretariat, the sports information service, the doping control, the training provision service, and that working with the suppliers of sports and technical facilities.

The events support service was the biggest employing 3,663 people. It was based on the directorates of various sports.

The main secretariat service, whose task was to receive and process NOC applications and the results of the events, consisted of 128 staff workers.

The sports information service (128 workers) united 20 information and reference points situated in the Olympic Village, and a section whose job was to prepare material for broadcasting and the scoreboard.

The doping control at the Olympic Village was effected under the guidance of the IOC Medical Commission by a service consisting of 152 doctors, laboratory workers, medical nurses, assistants and computer specialists working at the Doping Centre and its stations.

The training provision service (331 workers) drew up training time tables.

As has already been noted, part of the referee-information apparatus and sports gear and equipment was supplied for the Games by foreign firms. During the Games some of this equipment was serviced by specialists from these firms. The service working with the suppliers of sports and technical facilities helped them, supervised the installation of the referee-information apparatus, trained the necessary workers, published technical documenta-

tion and video-recorded the Olympic events. This service united 261 workers from various professions.

Most of these services were in operation from March 1980 onwards.

People taken on at the services underwent training courses. By mid-1979 programmes had been worked out for them. Besides lectures and classes, extensive use was made of films on Olympic subjects, various sports, and on methods of preparing and staging events. Technical regulations and other specialised literature were also studied.

Practical training of the service workers and other specialists directly at the sports installations during pre-Olympic control events, as well as when the national teams began their training, was particularly important. This was when the instructions worked out for the services were put to the test and all the inaccuracies detected eliminated. All this meant that the auxiliary personnel worked without a hitch.

Training ended in July 1980 with all-in training for all the services, coordinated with the other sub-units of the OCOG-80 (with all the means of communication, information, etc., functioning).



This section covers the specifics of the staging of competitions in the sports on the programme of the 1980 Olympics. A short outline is provided of the systems according to which competitors were selected and medalists determined; mention is made of the number of competitors, judges and auxiliary personnel, and information is provided about scoreboards and sporting equipment.

# Athletics

Competition in athletics was staged from July 24 through August 1 with a day off on July 29 at the Grand Arena of the Central Lenin Stadium (100,000 spectators).

The courses for the walking and marathon events were laid along the embankments of the Moskva River with the start and finish lines at the Grand Arena.

A new Tartan surface supplied by 3M(East)AG (USA/Switzerland) and Silidur mobile magnetic track curbing produced by Steiner Silidur AG (Switzerland) were installed at the Grand Arena in the course of the preparations for the Games. Two sectors—southern and northern—were also covered with Tartan; they were used for the long jump, the pole vault and for all throws. 4 jumping pits were prepared in the eastern sector.

The implements and equipment used for the competitions were approved by the International Amateur Athletics Federation (IAAF). They included:

— programme controlled uprights for the high jump and pole vault, designed and manufactured by the Moscow Power Engineering Institute (see section "Technical Apparatus");

— hurdles, hurdle height measuring devices, steeplechase obstacles, uprights, crossbars, and crossbar height measuring devices for the high jump and the pole vault, all supplied by Lillywhites-Cantabrian Ltd. of Great Britain;

— high jump and pole vault uprights produced by Kaspar Berg of the FRG;

— landing pits of AMPRO Corp. (USA) and Vennekel (FRG);

— shots supplied by Lillywhites-Cantabrian Ltd. of Great Britain, the Titan Sports Group Inc. of the USA and Kaspar Berg of the FRG;

— discuses made by the Harry Gill Company (USA), the Titan Sport Group Inc. (USA), Karhu-Titan OY (Finland), Obol (France), Lillywhites-Cantabrian Ltd. (Great Britain), and Kaspar Berg (FRG);

— javelins by Sandvik of Sweden, AMF Inc. of the USA, Accles & Pollock Ltd. of Great Britain;

— hammers supplied by the Titan Sports Group Inc. (USA), Lillywhites-Cantabrian Ltd. (Great Britain), and Kaspar Berg (FRG);

— starting blocks of Kaspar Berg (FRG);

— measuring tapes supplied by the Cooper Group Inc. of Canada.

The score keeping equipment comprised:

— two video-matrix bulb scoreboards produced by Elextroimpex/VBKM-Villesz of Hungary;



— six specialised turnable scoreboards from Hungary to display the results of field events and controlled from extension consoles that were also input terminals for the computer;

— a video-matrix scoreboard;

— an electric timing device for attempt time and lights for relay stages, produced by the ISTG of the USSR;

— a remote measuring device for throws (discus, javelin, and hammer) supplied by Carl Zeiss Jena of the GDR;

— an automatic measuring device for the long and triple jumps produced by the Moscow Power Engineering Institute;

— a set of equipment for precision electrical timing (photo-finish, video-finish, printout timing device, a specialised scoreboard to display the result of the leader at the finish, etc.) supplied by Swiss Timing/Omega/Longines of Switzerland complete with start control devices of Swiss Timing/Longines;

— a lap counter (Electroimpex of Hungary);

— the Sportanemometer wind gauge developed by the Research Institute of Hydrometeorology Instrument Making (USSR) to measure the wind velocity in the direction of running or run-up of jumpers (tailwind and headwind velocities were displayed on a specialised scoreboard).

Two types of Soviet-made vehicles, one of them electrically driven, escorted competitors in the marathon and the walking events. Both types had digital ISTG clocks showing the time elapsed since the start and were equipped with radio (there were 5 such vehicles altogether).

Two warm-up areas were connected with the competitors' reporting area at the Grand Arena by overhead walkways. One of the warm-up areas was covered with Tartan and was available for runners and jumpers

while the other was used for throws. They had specialised information boards to inform the competitors about reporting time and place for their events.

The main concept for the competition programme is detailed below.

As it was already mentioned above in this Chapter, the athletics events lasted a total of 9 days with an interval made after 5 days of competitions, which separated the athletics entirely from the football games held at the Grand Arena.

The duration of the competition by day and by shift, especially in the afternoon, was made as equal as possible. The events most exciting to watch were also spread more or less evenly in each afternoon session.

Whenever possible, women's and men's events were spread evenly over days and sessions.

Sufficient intervals were allowed between the morning and afternoon sessions to ensure adequate services to be provided for the participants and guests of the Games.

Only heats were held in the morning, except the decathlon and pentathlon.

The intervals between laps and stages in events had been set strictly on a scientific basis and from experience.

The time for all procedures not associated directly with the competition itself was reduced wherever possible.

The recommendations of the IAAF Council expressed at the first discussions of the draft programme in September 1977 in Düsseldorf, that the marathon and relay finals be staged on the last day and opportunities be provided for the same athletes to compete in different events were duly followed.

A dynamic competition programme resulted. Sites and events alternated. For example, the "pure" sprint was followed by the hurdles and then medium-distance runs were held to be replaced by the sprint, and so on. At the same time, competitions in other, no more than two, disciplines, such as jumps and throws, took place.

In accordance with the IAAF regulations and traditions, the Olympic competition was administered by officials nominated by the Athletics Federation of the USSR, except the walking which was managed by an international crew of officials, and electrical timing where a Soviet time-keeper worked together with the IAAF time-keeper and a representative of Swiss Timing.

The technical officials, including the IAAF jury members, numbered 208 from 22 countries. Of these, 180 officials were provided by the Soviet Union. There were 220 Soviet auxiliary personnel.

A total of 979 athletes from 70 countries contested in the competition.

Well controlled, the competition proceeded strictly on schedule with smooth operation of services, such as transportation of hurdles, of throwing implements, personal articles and clothes of competitors.

The IAAF headquarters were located beneath the stands of the Grand Arena.

In the opinion of the IAAF, the competitions were organised quite well. President A. Paulen said: "The Organisers of the Moscow Games put forward and implemented some interesting and, more important, scientifically based proposals. Some problems were approached in an entirely new way."

# Rowing



The rowing competitions were held from July 20 to 27 (with one reserve day) at the Canoeing and Rowing Basin in Krylatskoye (seating capacity—15,730 including temporary stands). With those watching from a field for spectators some 21,000 people could attend the competitions.

The basin has two courses—the main one (width—125 m) and the return one (76 m) which are separated by an island (width—75 m). A circular cycling path was made on the island for trainers, and stands for 1,200 were installed there.

The main course was marked off according to the Albano system and, despite the fact that according to International Rowing Federation (FISA) regulations not more than six boats may start at once, the course was divided into 8 lanes, which made it possible to move the boats to one of the shores in case of a strong side wind so as to create approximately equal conditions for them.

New starting devices—sinkable rafts, which were endorsed by the FISA, were used for the first time at rowing competitions.

Minibuses, which followed the race along the canal, were provided for the judges and team trainers.

Special vehicles, trailers and semi-trailers, designed and manufactured for the Games by Soviet enterprises, were used to transport boats, oars, outboard and inboard motors, gas tanks and various equipment.

Under an agreement with the OCOG-80, the firms Alfred Shempli AG. (Switzerland), Bootswerft Empacher AG. (FRG), and the Dzintars Experimental Sports Vessel Plant (USSR) serviced and repaired boats.

Aside from the Rowing Basin itself, training sessions were held at the Trud rowing centre, situated close to the canal on the Moscow River.

National teams were able to rent out boats from the Organising Committee for training sessions and competitions. Trainers were provided with bicycles.

Functioning at the Rowing Basin was information equipment supplied by Swiss Timing (Switzerland). It included:

photo-finish apparatus (accuracy within 0.01 sec);

video-finish apparatus (accuracy within 0.01 sec);

motion-time apparatus with automatic printing of results and pertinent equipment at the starting line, portions of the distance and finish line

(accuracy within 0.01 sec.), with simultaneous relay of the time to a TV channel;

set of equipment for measuring wind velocity and direction (accuracy within 0.1 m/sec).

Installed on the island was a multi-purpose scoreboard (Electroimpex—VBKM-Villes, Hungary) with one demonstration panel (10 lines of 30 light planes each, all lines matrix). Aside from information on the course and results of the competitions, it showed the standing of the boats at portions of the distance via a scheme of symbols.

The rowing competitions were staged by 42 FISA technical officials and judges from 24 countries, including 4 from the USSR.

Soviet auxiliary personnel consisted of 79 persons.

Competitions were held in eight boat classes for men and six for women. A total of 547 athletes from 25 countries took part.

No changes were made in the competitions programme since the Montreal Games.

In view of the fact that the number of teams entered was somewhat smaller than expected, FISA officials took a decision partially to modify the playoff formula (this mainly applied to the number of boats in the heats and the order in which they proceeded to the subsequent rounds), which made it possible to preserve the overall number of competition days planned without inconveniencing participants and spectators.

All the services at the basin worked smoothly. There were no complaints against the starting mechanisms.

The precise work of the judges and auxiliary personnel made it possible to hold the competitions without protests and on a good technical level.

FISA headquarters was housed in the building situated next to the stands.

The Olympic basketball tournament was held from July 20 to 30 at the Olympiiski Indoor Stadium (basketball hall, capacity—16,000) and at the CSCA Sports Palace (5,000).

The B-7, put out by Tachicara Co. Ltd. (Japan), was endorsed as the official game ball. Stands and backboards of the firm Shelde International (Netherlands—Belgium) were used.

Installed at the stadium was a multi-purpose electronic scoreboard (Electroimpex—VBKM-Villes, Hungary), with two demonstration panels, each of which had 12 lines of 36 light planes (the last line being matrix), as well as 30-second timers of Soviet make (four for each playing court). Soviet specialised score-keeping boards and electric timers were used in addition.

Developed for the Moscow Games was the Olympiada-Basketball ACS, designed for operative processing of statistical information about the course of a game. Its basic characteristics were endorsed for the 1980 Games by the International Amateur Basketball Federation (FIBA).

This system, which worked simultaneously with the Information ACS, analysed, for the first time in the history of international basketball competitions, the technical actions of the team as a whole and individual players in 23 indicators. The data obtained was reported to the teams' coaches, TV commentators and members of the press (in French, English and Russian) two minutes after the conclusion of a game. Final statistics were released thirty minutes after the conclusion of the playing day. The system stored and automatically classified data about the players and teams according to each of the 23 indicators for the tournament as a whole and for each playing day. The input of game indicators into the system was handled by Soviet auxiliary personnel during the course of the competitions.

The volume and operative nature of the information provided were praised by FIBA officials, coaches and journalists.

The CSCA Sports Palace was equipped with a multi-purpose (blinker) electro-mechanical scoreboard (12 lines of 36 light planes each) and 30-second timers (Electroimpex—Fok—Djem, Hungary), and additional specialised score and time boards (also of Hungarian make).

Installed in the halls of both sports facilities were demonstration panels which instantaneously reflected the progress of the men's and women's tournaments.

Twelve men's and six women's teams (216 competitors from 14 countries) took part in the competitions.

Men's teams were selected for participation in the tournament as follows: it included the winners of the previous Olympics (among them the Soviet team); one team from Africa, one from Asia and one from Oceania; the teams placing first, second and third in the European qualifying tournament; and the teams placing first, second and third in the qualifying tournament on the American continent.

The six women's teams included the 1976 Olympic champion (the Soviet team) and the five top squads according to the results of the elimination tournament, which was held in May 1980 in Bulgaria.

A decision was taken at the session of the FIBA Central Bureau in October 1980 according to which the basketball competitions of the 1980 Olympics would be held according to regulations different from those in effect at the previous Games. The men's preliminary round alone coincided with the structure of the Montreal tournament. The men's and women's semifinals were held according to the round-robin system, after which finals were held between the teams which placed first and second—for the gold and silver medals, and also between those which placed third and fourth—for the bronze.

For staging the competitions the FIBA appointed 50 technical officials and referees from 25 countries, including 5 persons from the USSR.

Soviet secretary-judges, time-keepers and other auxiliary personnel (75 persons in total) as agreed with FIBA were selected according to the results of the Olympic Referee contest and on the basis of their work at the VII USSR Summer Spartakiade.
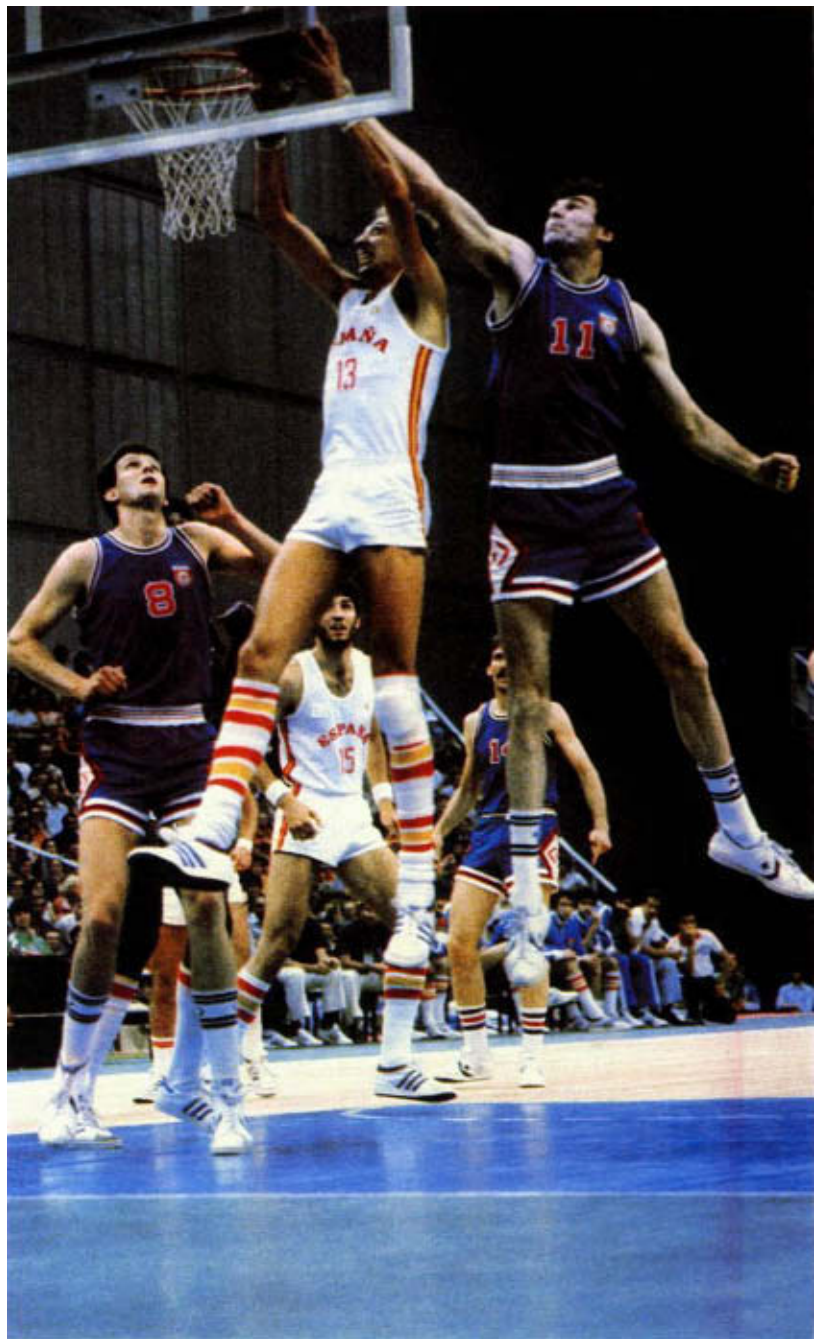
# Boxing

The boxing competitions took place from July 20 to August 2 (August 1—day of rest) in the boxing gym of the Olympiisky Indoor Stadium (seating capacity—17,000).

The ring was furnished by the Khokkei Experimental Combine (USSR), which was installed in the centre of the hall on a podium measuring 8x8 m and 91 cm high. Installed in the "red" and "blue" corners were seats for boxers and seconds, and cold and hot water facilities. The ring had a light blue covering at the request of TV officials.

For the first time in Olympic boxing tournaments a new type of 8-ounce gloves was used; they had no stitching on the front surface, which greatly decreased the danger of injury to the boxer's face. There was another innovation as well: the ring had not hemp ropes, but ropes made from foam latex rubber, which ruled out the possibility of injury from friction.

Installed in the gym was a multi-purpose electronic scoreboard (Electroimpex—VBKM-Villesz,Hungary) with two panels, each of which had 12 lines of 36 light planes (the last line being matrix). One of the panels gave information in Russian, the other in English. The information included the programme of the competitions (composition of the pairs), the score-sheet of the bout, the results of the bout with the names of the AIBA referees indicated, and the final results.

Suspended over the ring was a specialised scoreboard of the Lyustra type (ISTG, USSR), which provided information on the current time of the bout, the time-out, and the number of the round.

Installed near the locker rooms and in the hall and foyer were demonstration tables showing the weight classes, which with the aid of magnetic ciphers and small tables expeditiously reflected the course of the tournament.

Warm-up halls were fitted with rings and the requisite equipment. They had a radio broadcasting system and telephones with direct lines to the competition arena.

The Olympiiski Indoor Stadium housed the headquarters of the International Amateur Boxing Association (AIBA).

Each country could enter one contestant in each of the 11 weight classes. Boxers under the age of 17 were not allowed to take part in the competitions. Replacements were prohibited.

The Olympic tournament drew 273 boxers from 51 countries.

A contestant dropped out of the competition following the first defeat. A bout consisted of three 3-minute rounds with a minute time-out between them. A boxer who won all his bouts became Olympic champion. For staging the competitions the AIBA Executive Committee appointed technical officials and judges—a total of 93 persons from 54 countries, including 5 from the USSR. The auxiliary personnel consisted of 48 persons.

The draw of lots of the participants was held on July 18, 1980 at the Olympic Village Cultural Centre in a festive atmosphere. The draw was staged with the aid of Soviet-made equipment endorsed by the AIBA.

The official, preliminary and daily weigh-in and medical examination of competitors took place in the Olympic Village Sports Complex.

# Canoeing



The Olympic canoeing competitions were held from July 30 to August 2 at the Canoeing and Rowing Basin in Krylatskoye. Some 21,000 people could attend the competitions.

The main course of the canal was marked off according to the Albano system and divided into 11 lanes: nine, required by the regulations of the International Canoe Federation (ICF), and two additional lanes (for moving the boats to one of the shores in case of a strong side wind).

For the first time in international competition, the starting mechanisms were equipped with boat holders with air-powered clamps and electronic remote control, which was activated at the starting signal.

The system of the rest of the sporting and technical equipment is described in section "Rowing".

For staging the competitions 47 ICF technical officials and judges from 19 countries, 15 of them from the USSR, were appointed.



The Soviet auxiliary personnel consisted of 111 persons.

The competition programme was traditional, with no changes having taken place since Montreal.

A total of 204 athletes from 23 countries took part in the competitions.

The ICF headquarters was housed in the office premises of the building adjoining the stands.

# Cycling



The Olympic cycling competitions were held from July 20 to 28 at three venues: the Olympic cycling track (length—333.3 m; seating capacity—6,000), the Olympic circular track (13.5 km, seating capacity—1,400), and Moscow-Minsk Highway (100 km; 1,500)—here, as at the circular track, temporary stands were built in the start-finish area.

The construction of the track and its covering made of Siberian larch were largely responsible for its excellent cycling qualities.

Laid in the inner lane of the track (the so-called slow-cycling zone) was the Indorflex synthetic covering produced by the firm Mondo Rubber SPA. (Italy).

The technical assistance vehicles for the road races were fitted with 20 bicycles and 30 pairs of wheels supplied by the Colnago firm (Italy). Brevetti International Campagnolo SPA. (Italy) provided bicycle parts and organised servicing. A bicycle repair shop was in operation at the cycling track.

The rest of the equipment and gear were of Soviet make.

During the training sessions and competitions the cyclists were accompanied on the highway by special technical assistance vehicles from the Riga auto works (USSR).

The competition venues were fitted with scoreboards.

A specialised panel was used on Moscow-Minsk Highway; operated manually, it showed the times posted by teams after 25 km, 50 km and 75 km, as well as the final results.

Functioning at the Olympic circular cycling track was a mobile multi-purpose scoreboard (Electroimpex—VBKM-Villesz Hungary) with one panel containing 8 lines of 30 light planes each. After each lap it showed the time in which it was negotiated, the average speed on the lap, the average speed of the race, the numbers of the leaders, the time of the trailing racers and groups, as well as the numbers of the sportsmen who abandoned the race or were disqualified by the judges.

The cycling track was fitted with a multi-purpose scoreboard (Swiss Timing—Longines, Switzerland) with two panels each containing 10 lines of 30 light planes each (the same type of scoreboard was used at the 1976 Olympics).

A complex of scoring equipment produced by Swiss Timing hooked up to this scoreboard was used: "photo-

finish", chronometres, printing devices, video-tapeplayers, a mechanism for synchronised starts, and two specialised current time panels.

For staging the competitions the International Amateur Cycling Federation (FIAC) appointed 42 officials (commissaires) and a panel of judges from 10 countries, including 30 persons from the USSR. Soviet auxiliary personnel (53 persons) worked as well.

FIAC headquarters was housed in the cycling track building.

The competition programme did not undergo any changes since the previous Olympics.

The Organising Committee fulfilled the request of a number of national federations to allow them during the highway team trial to use their own representatives as drivers of technical service vehicles (following mandatory presentation of an official driver's licence). If a national delegation did not have its own driver the OCOG-80 supplied one.

A total of 231 sportsmen from 34 countries took part in the cycling competitions.

The competitions were held without protests.

# Fencing



The CSCA Sports Complex (fencing hall of 6,000 seats) was the site of Olympic fencing competition from July 22 through 31.

17 pistes covered with metal netting were installed in the hall. A piste on an elevated platform was used for finals.

The fencing hall had an area of 126 by 84 metres with the height of 14 metres.

The competition arena was equipped to meet all the requirements of the International Fencing Federation (FIE).

There were some innovations introduced since the previous Olympics in the electrical score-keeping equipment developed by Soviet engineers and approved by the FIE. Thus, for the first time priority indicators were used for double sabre attacks and a system of yellow lights that detected malfunctions in the electric circuits of the weapon and clothes of fencers. Each of the 17 pistes was equipped with an electric clock. The innovations were greatly appreciated by the FIE.

The apparatus and score-keeping equipment included also metallic pistes for preliminaries and finals, the UEF-4 hit-recording apparatus with external repeater lights, hit counters, desk chronometers, display score-sheets for every piste (all Soviet-made), as well as a multi-purpose bulb letter-digital scoreboard (Electroimpex/VBKM-Villesz of Hungary) having 12 lines of 36 characters each (the last line was a a one).

The FIE Technical Directorate of 7 members managed the competition.

International judges officiated at the bouts. There was a total of 65 FIE technical officials and jury members from 18 countries, including 26 from the USSR.

165 Soviet support officials were provided.

The FIE had its offices in the CSCA Sports Complex.

Individual competitions were held according to a mixed formula: first, rounds of elimination pools (every competitor fights each other fencer), then direct elimination with repechage, and at last the final where 6 fencers competed again in a round.

Team competitions consisted of a pool round followed by direct elimination.

187 fencers from 20 countries took part in the competition.

D. Brusati, elected the President of the FIE at the Congress in Moscow, said: "...In particular, I wish to praise the Soviet engineers who designed the apparatus: a repairman was never called into the hall."

# Football

The Olympic football tournament was held from July 20 through August 2 in four cities: Moscow, at the Grand Arena of the Central Lenin Stadium (100,000 seats) and at the Dynamo Central Stadium (50,000 seats); Leningrad, at the Kirov Stadium (72,000 seats); Kiev, at the Republican Stadium (100,000 seats); and Minsk, the Dynamo Stadium (50,000 seats).

Tango balls supplied by Adidas of France, Soviet-made goals, and goal nets produced by Bridport-Gundry Ltd. of Great Britain were used.

The stadia had the following multi-purpose scoreboards:

— The Grand Arena of the Central Lenin Stadium—two video-matrix scoreboards (described in detail in section "Sports Apparatus and Score-Keeping Equipment" of this Chapter).—The Grand Arena of Dynamo Central Stadium—one bulb letter-digital scoreboard of 10 lines by 30 characters each (Electroimpex VBKM-Villesz of Hungary).

— The Kirov Stadium in Leningrad—two bulb letter-digital scoreboards of 10 lines by 30 characters each (Electroimpex/Ravisz of Hungary).

— The Republican Stadium in Kiev—two bulb letter-digital scoreboards of 10 lines by 30 characters each (Electroimpex/Ravisz of Hungary).

— The Dynamo Stadium in Minsk —one bulb letter-digital scoreboard of 10 lines by 30 characters each (Electroimpex/Ravisz of Hungary).

The competition was managed by the FIFA Amateur Committee which acted as Tournament Committee.

71 technical officials and jury members of the International Federation of Football Association (FIFA) from 41 countries were invited for the competition, including 8 officials from the USSR, assisted by 16 Soviet support officials.

The Olympic football competition traditionally consisted of two stages. The first stage comprised the qualifying competition to determine 14 teams to take part in the finals. They were to include four teams from Europe, three teams from Africa, three teams from Asia, two from South America and two from North and Central America and

the Caribbean. The USSR team as representing the host country and the team of the GDR as the champion of the previous Games qualified automatically for the finals.

The qualification competition began on January 1, 1979, its matches being played in the groups and cities as defined by the FIFA regulations, and ended on April 30, 1980. 82 teams participated in the competition. 16 teams participating in the final tournament were divided into 4 groups by draw for preliminary matches played according to the League system (addition of points). The first two teams in each group continued playing by eliminating the loser (knock-out system).

The OCOG-80 devised a system of staging the tournament and team travel to different cities, which allowed Soviet football fans to see more teams in their cities while players, coaches, referees, and officials had an opportunity to get acquainted better with the host country. 271 players representing 16 countries took part in the tournament.

The FIFA had its headquarters in the Moskva Hotel.

As attested by the FIFA top officials, the football tournament was a complete success in terms of organisation and performance.
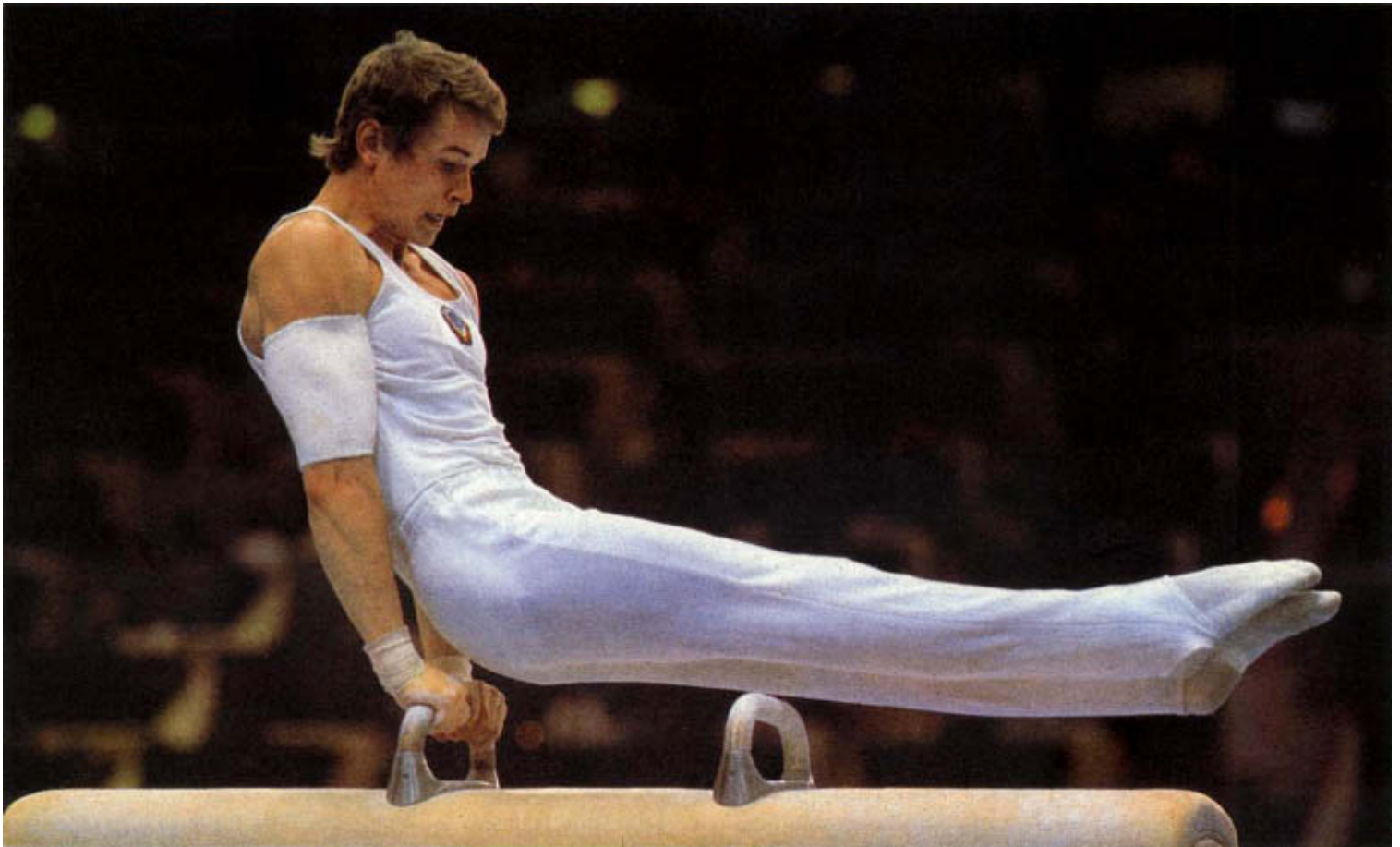
# Gymnastics



The gymnastics competitions were held from July 20 to 25 at the Lenin Stadium Palace of Sports (seating capacity—12,300).

Functioning at the tournament was the Soviet-made information apparatus Gymnast-2, developed by the VEF plant (Riga).

For the first time in the history of Olympic gymnastics competitions, with the aid of this apparatus, the evaluation of a competitor's performance was automatically calculated by points given by each of the judges, which was then flashed on a special panel; a combined score-sheet was printed up as well. The judges did not have to keep hand-written records. The console in front of each of them printed a sheet with the marks with the amount of points subtracted for mistakes and added for the originality and complexity of an exercise, and for performance quality. The apparatus also set automatically the time of the gymnasts' warm-up and performance, controlled the gymnast's stepping out of the bounds of the performing area during the floor exercises, and registered subtractions from the mark if there were violations in these indicators. It included 12 special-purpose panels—six for showing the numbers of the competing gymnasts and their marks, four timers, an out-of-bounds indicator and an indicator of the number (type) of horse vault, as well as the hook-up scheme with the all-purpose scoreboard in the Palace of Sports.

The Gymnast-2 system was endorsed by the International Gymnastics Federation, and was tested out at the VII USSR Summer Spartakiade. At the intercontinental judges' courses in 1980 a special seminar was held on the operation of this apparatus.

The gymnastics equipment was supplied by:

Glavsportprom of the USSR—vaulting horses, swing horses, frames with gymnastics rings, parallel bars, horizontal bars, mats for floor exercises, balance beams, and run-up mats for the vaulting horse.

Their designs differed fundamentally from those of the equipment used at the Montreal Games. For example, the swing horse and the vaulting horse are especially steady. The men's bars featured a new self-jamming lock system. A new frame construction with a non-inertia suspension system was used on the rings. The run-up pad was made of double-layer material: the base—with a penopoliurethane covering, and the top—a mat with an inset metallic measuring tape;

Sarniege (France)—gymnastics mats;

Schelde International (Netherlands—Belgium)—uneven bars on bracing wire, poles for them, and elastic springboards.

An electric scoreboard put out by the OY Nokia AB Electronics firm (Finland) had been installed at the Palace of Sports of Lenin Stadium back in 1973. Due to its reliable operation, it was decided to use it during the Olympic competitions, for which its information potential was expanded (by increasing its computer memory volume). At the gymnastics competitions the scoreboard was connected to the Gymnast-2 judging apparatus.

Demonstration score-sheets were installed in the foyers and halls, which reflected the course of the competitions and the current standings of the participants and teams.

The competitions were run by the FIG Executive Committee. The judges of the men's and women's competitions were appointed by the pertinent FIG technical committees. The body of technical officials and judges consisted of 69 representatives from 18 countries, including 16 from the USSR.

The Soviet auxiliary personnel comprised 68 persons.

Taking part in the competitions were 9 men's and 8 women's teams selected by the FIG, and 14 male and 14 female gymnasts in the individual competition, a total of 147 sportsmen from 19 countries.

Several changes were made in the traditional timetable of the competitions since the Montreal Games: competitions in the compulsory programme for men and women were held on different days; this decreased the length of the sessions on the first days and evened out the load of the Palace of Sports itself, the panel of judges and other services.

The result in the team championship was determined from the sum of the points of a team's five best gymnasts (of the team's six members who competed in the compulsory and free programme) in each event.

The participants of the final competitions in the all-round event were selected according to the results of the team competitions (36 men and 36 women), but not more than three per country.

The winner in the individual competition was determined according to the sum of the results of the final competitions in the all-round event and the half-total of his result in the team competitions.
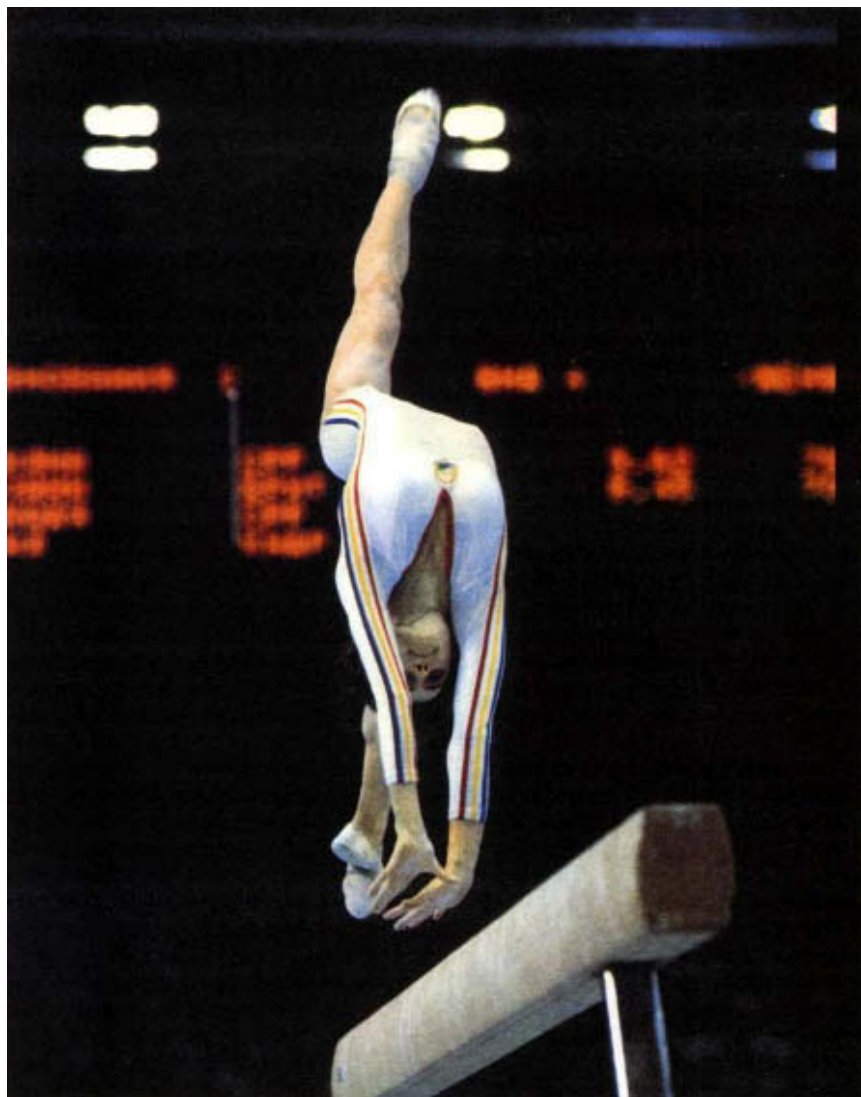
Permitted to take part in the finals on the apparatus of the all-round event were the six men and six women who posted the top results on a given apparatus in the team competitions, but not more than two per country. The winners on the individual apparatus were determined by adding the result posted in the final to the half-total of the points received in a given event in the team competitions.

Several protests were lodged during the competitions over marks of participants. With the exception of two, as a result of which the marks were raised (by 0.05 points), they were refused by the jury of appeal.

The FIG headquarters was housed in the Palace of Sports.

Team representatives and FIG officials spoke highly of the organisation of the competitions.

FIG Secretary General M. Bangerter noted that the new Soviet equipment Gymnast-2 was a great aid to the judges.

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## Weightlifting

The weightlifting tournament was staged in the Izmailovo Palace of Sports (5,000 seats) from July 20 through 30.

The sports apparatus fully complied with the regulations of the International Weightlifting Federation (IWF).

The warm-up area adjacent to the auditorium of more than 1,200 sq. metres was made on the same level with the competition podium so that the competitors did not have to waste efforts coming up to the stage.

There were 9 platforms of 3 by 3 m each in the warm-up area.

18 cabins were available for competitors to have a rest—one for each athlete.

VTR monitors made it possible for the competitors and coaches to watch the techniques in snatch or clean-and-jerk.

Weigh-in rooms, a doping control station, a medical centre, and 8 locker rooms (each with its own sauna and a massage room) adjoined the warm-up area.

A multi-purpose electromechanical letter-digital scoreboard (Electroimpex/Fok-Dyem of Hungary) of 25 lines with 98 characters each was installed above the competition podium. A Soviet-made specialised display board stood on the podium itself. It showed world and Olympic records in the given weight class and the weight of the barbell to be lifted. The same board was used in the warm-up area.

As far back as 1978 a new Soviet-made barbell with coloured rubberised discs, produced by the Sport Experimental Plant in Leningrad, was tried during an international tournament in Moscow. Lifters and coaches really liked it. (5 world records and over 30 national records were set during the tournament). Such barbells were used for the Olympic events.

As specified by the Regulations, the competitors were divided into A and B groups in all classes, except 110 kg and over 110 kg category where only one group was formed of 13 and 9 lifters, respectively.

The IWF appointed 33 technical officials and jury members from 24 countries, including 3 from the USSR, to administer the competition.

They were assisted by 70 Soviet support officials.

Rooms were provided for the IWF headquarters in the Izmailovo Palace of Sports.

173 lifters representing 40 countries competed in the events.

The Palace of Sports and organisation of the competition were much praised by the competitors and officials. Said the IWF President Gottfried Schödl: "The Izmailovo Palace of Sports should be put on wheels and driven around the world to demonstrate as model facilities for competitions."

# Handball



The handball matches were held from July 20 through 30 in the Sokolniki Palace of Sports (6,800 seats) and the Dynamo Palace of Sports (5,000 seats).

The arenas were covered with Taraflex Sport M synthetic surfaces supplied by BAT Taraflex of France.

The score-keeping equipment included two bulb letter-digital scoreboards (12 lines of 36 characters each) produced by Electroimpex/Fok-Dyem, Videoton, VBKM-Villesz of Hungary and a specialised scoreboard displaying the score and time.

The tournament used Bang balls for women's teams and Jet balls for men's teams (all supplied by Adidas of France), Soviet-made goals, and goal nets and back-stop nets produced by Bridport Gundry Ltd. of Great Britain.

The competition was managed by the Commission of Organising and Competition of the International Handball Federation (IHF). The Commission appointed one official commissioner and two technical representatives of the IHF. There was a total of 56 IHF technical officials from 20 countries, including 5 from the USSR.

Sixty-two Soviet support officials took part in the conduct of the tournament.

The IHF had decided to stage the Olympic handball tournament according to the previously established procedure.

Twelve men's teams competed in the tournament. They had been selected by the IHF on the basis of the latest world championship before 1980 and continental championships. 6 women's teams had been selected on the basis of the latest world championship and the selection tournament for teams from Africa, America, and Asia. All in all, there were 252 competitors from 14 countries.

The competitions for men consisted of a preliminary round and a final round. Placed in two groups, the teams played each other team of the group in a round. In the final round, the winners of the groups played against each other for the first and second places, second-placed teams from each group contested with each other for the third and fourth places, etc.

Women's teams had a single-round competition.

## Hockey



The Olympic hockey competition was held from July 20 through 31 at the Dynamo Minor Arena (10,000 seats) and the Young Pioneers Stadium (5,000 seats).

In keeping with the rules of the International Hockey Federation (FIH), the pitches measured 91.5 by 55 metres. They were covered with Polygrass artificial turf supplied by J. F. Adolff AG of the FRG.

Olympic Super De-Luxe balls were supplied by Hans Raj Mahajan and Sons Pvt., Ltd of India, who was the Official Supplier to the Games, and goal nets and pitch border nets by Bridport-Gundry of Great Britain.

Soviet-made equipment and implements, such as goals, targets, posts for dribbling practice, etc. were also used for competition and training.

The score-keeping equipment was manufactured in the USSR. The Dynamo Minor Arena had the Elektronika multi-purpose bulb letter-digital scoreboard (USSR) with 8 lines of 32 characters each. The scoreboard displayed teams and lists of players, time, score during a game, and names of scorers. A specialised scoreboard at the Young Pioneers Stadium, produced by VISTI (USSR) displayed teams, time of play, score, and period.

The FIH Council headed by the President was responsible for the competition. The FIH appointed members of the jury of appeal and technical officials including umpires, 43 altogether from 16 countries, among them 4 from the USSR.

There were 61 Soviet support officials.

The offices of the FIH were located in the administration building of the Dynamo Stadium.

6 men's teams and—for the first time in Olympic history—6 women's teams took part in the competition.

Men's teams first played against each other in a round. Then the first two teams played for gold and silver medals. Teams placed third and fourth contested for bronze medals and those placed fifth and sixth met once again to determine their final standing in the tournament.

Women's teams played against each other in one round.

192 competitors from 9 countries participated in the competition.

There were no protests from the participating teams.

# Judo



The Olympic judo competitions were held from July 27 to August 2 at the Lenin Stadium Palace of Sports (seating capacity—12,300).

A podium was installed in the arena measuring 22.5x22.5 m and 1.15 m high, which was covered by tatami measuring 16x16 m put out by the Sarniege firm (France).

The warm-up hall had two tatami, each measuring 16x16 m. They bore the Favorit-80 label and were produced by Jean Foldeak GmbH+Co. KG (FRG).

Information apparatus manufactured in the USSR functioned at the judo competitions. It consisted of four specialised panels which reflected the course of the bout (technical marks, penalties, time-keeping, holding time) and consoles. In case of a breakdown, similar autonomous information apparatus system was provided for, installed on the table of the competition officials.

For the first time in judo competitions, on an IJF recommendation, a device (with two light planes—red and white) was used for measuring the time of medical assistance to participants during a bout.

A scoreboard, whose characteristics are described in the section "Gymnastics", functioned at the competitions.

All the apparatus worked flawlessly and received a high assessment from the IJF technical delegates.

For the first time, the Olympic judo tournament was held in eight weight classes (two more than in 1976).

The traditional system of dividing contestants into two subgroups was in effect.

During the day preliminaries were held in one of the weight classes, while consolation and final competitions were staged during the evening session (bouts in the two classes were held on the first day).

For staging the Olympic tournament the IJF appointed 36 technical officials and judges from 22 countries, including one from the USSR. The auxiliary personnel (35 persons) comprised the finest Soviet referees.

A total of 186 sportsmen from 42 countries took part in the competitions.

The IJF headquarters was housed on the premises of the Palace of Sports.

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# Wrestling



The Olympic wrestling tournament was held in the CSCA Sports Complex (wrestling gym, seating capacity—over 8,500) from July 20 to 24 (Greco-Roman) and from July 27 to 31 (freestyle). Situated in the centre of the gym was a platform measuring 64x16 m and 125 cm high, on which were laid four 12x12 m Olympia-80 mats put out by Jean Foldeak GmbH+Co. KG (FRG). The mats for warmups and training sessions were also supplied by this firm.

Laid out on the third floor in the warmup gym (measuring 48x18 m) were three wrestling mats, and another mat in the hall of the socle floor, right next to the locker rooms.

The warmup areas and lockers were fitted with radio broadcasting systems so as to enable the sportsmen to get to the place of a forthcoming bout on time.

Used in warmups and training sessions was sports equipment mainly of Soviet make.

Four sets of Soviet-made information equipment (one per mat) provided spectators with the necessary data. A set included a judge's console and two specialised panels, which gave in red and blue numbers the points amassed by the athletes and the warnings received, and also showed the time of the bout.

Installed in the gym was an electronic scoreboard (Electroimpex—VBKM-Villes, Hungary), with one panel containing 12 lines of 36 light planes each (the last line being matrix).

Hung in the foyer and locker room area were demonstration score-sheets of the course of the competitions in all weight classes.

The Olympic tournament was run by the International Amateur Wrestling Federation (FILA).

The FILA appointed 75 technical officials (mat officials, referees, etc.) and a panel of judges from 31 countries, including 9 from the USSR. The Olympic tournament was also provided with Soviet auxiliary personnel (67 persons).

The FILA headquarters was located in the CSCA Sports Complex.

The FILA's trainer, technical, legislative, medical and judging commissions functioned during the tournament.

An innovation in the competitions was the fact that bouts in each weight class lasted three days. On the first day bouts began in the 48 kg, 62 kg, and 90 kg class; on the second day 52 kg, 74 kg and 100 kg; and on the third day—the remaining weight classes (57 kg, 68 kg, 82 kg and over 100 kg). The finals were held on the third day for each weight class, during the evening session. Thus, only two of the five days of the Olympic tournament were preliminary ones, while the remaining three were devoted to the finals, which greatly heightened their spectator appeal.

A total of 266 athletes from 35 countries took part in the Greco-Roman and freestyle wrestling competitions.

# Swimming, Diving and Water Polo



The Olympiiski Swimming Pool was the site of swimming (7 days), diving (8 days), and water polo (2 days) events from July 20 to 29. Water polo preliminaries (6 days) were staged in the swimming pool of the Central Lenin Stadium (seating capacity of about 10,500).

The swimming pool used by swimmers and water polo players (8,000 spectators) was separated from the diving pool (5,000 spectators). Thus, the swimming and diving competitions were held simultaneously rather than one after another as was the case for the previous Games.

The competition baths of the Olympiiski Swimming Pool were surrounded with galleries wherefrom the underwater techniques of swimmers could be observed through special windows.

As agreed upon with the International Amateur Swimming Federation (FINA), the following equipment was used:

— swimming and water polo markers and floating goals supplied by Sport Kombinat of Yugoslavia and Meyer-Hagen of the FRG;

— springboards and diving boards made by Arcadia Air Products of the USA;

— Sportflex Supper X platform surfacing by Mondo Rubber S.p.A. of Italy;

— Mikasa 6000 water polo balls supplied by Myojyo Rubber Industry Co., Ltd of Japan;

— lap counters, swimming boards, floats, glasses, belts, rubber shoes, nose clips, ear plugs, water polo flags, caps with protectors, officials' cards supplied by Hind-Wells Inc. of the USA;

— goal nets of Bridport-Gundry Ltd. of Great Britain.

Timekeeping for swimming events in the Olympiiski Swimming Pool was the responsibility of Swiss Timing/Omega of Switzerland. The company supplied a multipurpose bulb letter-digital scoreboard (12 lines of 32 characters each) and automatic timekeeping equipment interfaced with the scoreboard. This system made registration of results practically all-automatic; it detected false starts, measured time of each swimmer after a 50-m lap and the number of laps covered, and summed up a final result. After the last competitor had finished a heat, it displayed the results on the scoreboard listing the contestants in the order of placing and printed out a scoresheet. In addition, the system automatically compared

the results of the heat with the world and Olympic records and gave a signal when any of them was exceeded.

The same company supplied the scorekeeping equipment for water polo.

The results-recording and display equipment for diving competitions supplied by Swiss Timing included a miniprocessor for automatic processing of marks awarded by judges and the score displayed on the scoreboard. The console of the referee was linked to those of the judges.

The diving pool had a multi-purpose bulb letter-digital scoreboard (11 lines of 33 characters each) and an astronomical clock (Electroimpex/Fok-Dyem of Hungary).

The equipment for water polo matches (by the same Hungarian firm) installed at the swimming pool of the Central Lenin Stadium included the Dolphin-8 automatic clock, the score control panel, actual time and player exclusion time control panels, two sets of portable actual time clocks equipped to produce an audio signal, a multi-purpose bulb letter-digital scoreboard (10 lines of 33 characters each), an exclusion-time clock, display boards for the numbers of players penalised and an astronomical clock.

Results and start lists and various tables to show progress of competitions were posted in the lounges of all the pools.

The technical officials and jury worked in a traditional FINA pattern. The FINA directly managed the technical delegates, jury of appeal, the International Technical Swimming Committee, the International Technical Diving Committee, and the International Water Polo Committee which, in their turn, directed technical officials. All the above bodies numbered 149 members from 34 countries, including 35 officials from the USSR. There were 80 Soviet support officials.

The programme of swimming, diving and water polo competitions had not changed, compared to the 1976 Games.

The FINA had set qualifying standards in swimming and diving. Only the athletes who had met the standards were eligible for the Games of the XXII Olympiad.

The following teams were selected for the Olympic water polo tournament:
— the first six from the world championship in 1978 (not counting the team of the host country);
— the team of the host country;
— five best teams of an intercontinental selection tournament.

The Olympic tournament consisted of preliminaries and finals. The preliminary round was played in three groups of four teams each. The teams placed first and second in each group formed a final group and played each other team in that group to determine places 1 through 6. The rest of teams played among themselves to determine places 7 through 12.

537 athletes from 43 countries altogether participated in the swimming, diving, and water polo competitions.

The FINA headquarters were located on the premises of the Olympiiski Indoor Swimming Pool.

The FINA officials, competitors and the press gave good marks to the facilities offered.

The FINA President Javier Ostos said: "This facility (the Olympiiski Swimming Pool) can be called unsurpassed. The best possible conditions have been created for the competitors and spectators. The Soviet organisers were awarded special prizes of the FINA."

# Modern Pentathlon











The modern pentathlon events took place from July 20 through 25 and included:

Riding — at the Trade Unions Equestrian Centre.

Fencing — at the fencing hall of the CSCA Sports Complex

Shooting — at the Dynamo Shooting Range in Mytishchi.

Swimming — at the Olympiiski Swimming Pool.

Cross-country running — at the Trade Unions Equestrian Centre, and in the adjacent woodland park.

The OCOG had organised the training of 90 horses 2 years before the Games. The horses belonged to equestrian clubs of the Soviet sports societies. They were collected in one place in May 1980 and 35 of them were selected for competition. New saddlery was made to equip the horses.

The sports implements and apparatus used for the competition were approved by the International Federation of Modern Pentathlon (UIPMB).

Time-keeping during riding, swimming and cross-country running was carried out by Swiss Timing of Switzerland with accuracy to 0.01 second.

All the sites for the pentathletes were equipped with scoreboards described in detail in other sections of this Chapter.

The programme included individual 800-m riding with obstacles, electric épée with one decisive hit, pistol duelling 20 shots, freestyle 300-m swimming, and 4,000 m cross-country running.

The scores of the members of a team were put together to make the score of the team and thus to determine its place.

Some alterations to the UIPMB rules made at its Congress in 1976 were taken into account. They concerned penalties for various errors of competitors in all the events except the cross-country running and thus called for special accessories for judges not used before, for example pointers to signal to a competitor that he had taken 5 warm-up jumps or that he was penalised. The accessories were duly made.

The OCOG devised a flow chart for the pentathlon events. The chart and interconnections between its individual links were refined during the VII USSR Summer Spartakiade and during trial competitions.

The pentathlon events were managed by 34 technical officials and the UIPMB jury members from 10 countries, (including 15 from the USSR), assisted by 82 Soviet support officials.

The UIPMB headquarters was located in the administration building of the Equestrian Centre.

No protests were lodged with the officials. Therefore, the jury of appeal did not meet during the competitions.

53 athletes representing 17 countries took part.

## Equestrian Sports

The Olympic equestrian sports competitions were held from July 24 to August 1 at the Equestrian Sports Complex of Trade Unions in Bitsa Forest Park (with the exception of the Jumping Grand Prix, individual competition, which was contested on August 3 at the Lenin Stadium Grand Arena).

The complex facilities had the following seating capacities: dressage field—3,000; show jumping stadium—12,000; Lenin Stadium Grand Arena—100,000.

Installed at the show-jumping stadium was a multi-purpose scoreboard: 12 lines of 36 light planes each, the last line being matrix (Electroimpex-VBKM-Villesz, Hungary). Used on the dressage field was a mobile multi-purpose scoreboard (8 lines of 30 light planes each) of the same make.

Installed in the area of the starting and finish line on the dressage field and cross-country track were three large demonstrations score-sheets of Soviet make, which expeditiously reported marks, mistakes en route and other information.

Time was kept at the jumping grand prix and on all the endurance tests in the three-day event by apparatus furnished by Swiss Timing-Heuer Leonidas (Switzerland).

The rest of the gear and equipment at the Equestrian Sports Complex were of Soviet make.

Vehicles specially manufactured by Soviet enterprises were used for transporting horses.

In pursuance of a FEI decision a number of changes were made in the competition programme. The individual jumping competition was held on the last day of the Games; in the past the team competition used to be staged at this time.

The fields and field houses for the competitions met FEI requirements. However, due to the heavy precipitation prior to the Games, the fields for the endurance tests were ready only by the very start of the competitions, and their testing by the participants caused certain difficulties.

Each national team was furnished the requisite number of boxes for horses (112 horses were brought to the Games). They were provided with feed in accordance with FEL norms and regulations.

Niagara Therapy Ltd. (Great Britain) supplied the equipment for massaging horses.

Reliable medical and veterinary services were provided at the competitions. A first-aid helicopter was used during the endurance tests.

Two participants in the three day event were injured during the endurance tests and were hospitalised.

For staging the competitions the FEI appointed 19 technical representatives and judges from 15 countries, including 4 from the USSR.

Soviet auxiliary personnel (98 persons) also provided services at the competitions.

A total of 68 athletes from 11 countries took part in the competitions.

The FEI headquarters was housed in the administration building of the equestrian sports complex.

# Shooting



The shooting competition was staged at the Dynamo Shooting Range in Mytishchi, a small town near Moscow. The same sites were used for practice.

The stands accommodated about 3,000 spectators.

The Dynamo Shooting Range had:

— one 50-m target shooting range with 90 target units;

— one 25-m rapid-fire range with 12 target units;

— one 50-m running-boar target area with three target units;

— four combined trap and skeet ranges;

— an administration building, auxiliary and utility buildings and structures, including 48 lockers for storage of weaponry and a repair shop.

All the ranges were equipped with the latest technology available.

The shooting range used a mobile bulb multipurpose letter-digital scoreboard with 8 lines of 30 characters each (Electroimpex-VBKM-Villesz, Hungary) and Soviet-made devices: four manual specialised display boards to post scores in trap and skeet, large-size scoresheets for each event, a special display board to post scores of running-boar shooting, a timing device to call competitors for

clay pigeon shooting, programme-controlled display digital clock, etc.

The Lektor-2000 projection system provided sufficient information for spectators displaying the score after each shot or a series of shots on a screen suspended from the ceiling of the range.

Programme-controlled electromechanical rapid-fire units at the 25-m range, equipped with photocells to signal when a shooter raised his hand too soon, were supplied by VEB Lehrgeräte und Reparaturwerk Mittenwalde of the GDR. The same factory produced the unit control panels and specialised scoreboards.

The running-boar ranges equipped by the Ernest K. Spieth company of the FRG had television screens allowing the spectators, competitors, and range officers to see targets with bullet holes. Specialised scoreboards were used for the same purpose.

The Ernest K. Spieth equipment was installed at the clay pigeon areas. But acoustic devices of that company often failed and had to be replaced by Soviet-made ones.

The 50-m range had a recessed shelter with four rooms for range officers with an underground passage from the shooting range to the shelter. Only persons with authorised access to targets were allowed to use the passage during competition.

As commissioned by the OCOG-80, Ernest K. Spieth had developed and supplied new target units for the 50-m range, which were remotely controlled from the shooter side. The units used separate targets instead of targets on a continuous line as had been previously the case. Each target, shot at, dropped into a basket below. Thus, it could be taken away for verification immediately after the shot without stopping the competition. In addition, a special lift was designed for the unit to be raised and lowered into the recessed shelter.

The 50-m pistol targets, the 25-m rapid-fire pistol targets, the 50-m small-bore rifle and the running-boar targets were supplied by Carl Edelmann GmbH of the FRG, clay pigeons by Sivia of France, ammunition by

Dynamit Nobel of the FRG. Ernest K. Spieth of the FRG supplied coconut fibre mats for shooting in a prone position.

By arrangement with the OCOG, Hemmerly AG of Switzerland and the E. Tehlmann plant in Zul (GDR) organised maintenance and repair of the firearms.

Compared to the Games in Montreal, the competition schedule had been changed so that one event was completed each day.

As before, no more than two competitors from each country were allowed to take part in an event.

239 shooters representing 38 countries competed.

36 technical officials and jury members had been appointed by the International Shooting Union (UIT) from 22 countries, including 6 from the USSR. There were 150 Soviet support officials. The UIT had its headquarters in the administration building of the range.

One protest was made during the competition, which was denied by the jury of appeal.

A special service was attached to the competition directorate, which worked around the clock. The service assisted the shooters with customs clearance at the airports and railway stations, with transportation of their equipment and weaponry to the shooting range, and with dispatching this equipment back after the competition. Customs clearance of the equipment and weaponry of athletes leaving after the competition was organised directly at the shooting range.

The top officials and technical delegates of the UIT highly praised the organisation of the Olympic shooting competition. The UIT President Olegario Vázquez Raña said: "I was sure that new world records would appear. I am very glad that I was not mistaken. There could not have been otherwise with the facilities offered for competitors. The shooting range in Mytishchi is the best in the world. As President of the International Shooting Union, I am proud that these 1980 Games have produced such extremely high results."

# Archery



The competition was held from July 30 through August 2 on the Olympic Archery Field in Krylatskoe.

Temporary bleachers with 3,000 seats were installed for spectators.

The competition site fully complied with the existing regulations.

The field is covered with natural grass.

It had mainly Soviet-made equipment and implements. Target wooden stands, position numbers, and bow racks complied with the international competition rules.

The International Archery Federation (FITA) had its offices in specially prepared rooms in pavilions.

Two mobile multipurpose bulb letter-digital scoreboards, each with 8 lines by 30 characters (Electroimpex/VBKM-Villesz. Hungary), and 2 Soviet-made display scoresheets were used.

This Olympic Archery competition was the first to use the apparatus which automatically set the time of preparation and shooting in succes-sion for three rotations of archers, including the prolonged duration of long-distance rotations, with appropriate audio and light signals set time for resumed shooting, and randomly set the rotation order. A special scoreboard had an elapsed time counter and displayed the number of rotation and the number of shooting series. The equipment was manufactured in the USSR.

The competition was supervised by the FITA Technical Commission and jury of appeal—12 members from 7 countries (3 from the USSR). They were assisted by 43 Soviet support officials.

There were no changes in the programme or regulations of the competition, compared to Montreal.

67 archers representing 25 countries took part in the competition.

One protest was made to the jury of appeal against a decision taken by the Technical Commission concerning the score of an Australian female competitor. The protest was granted.

# Volleyball
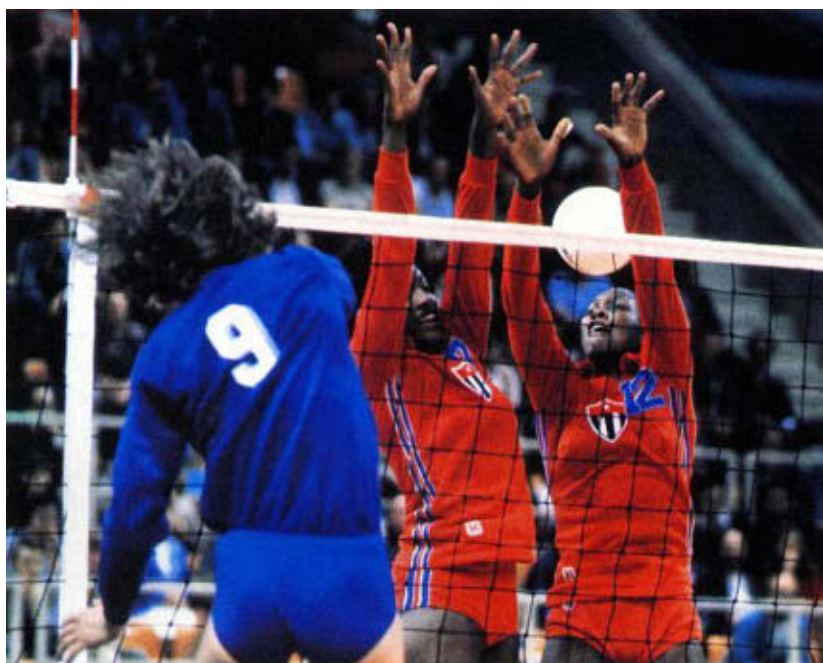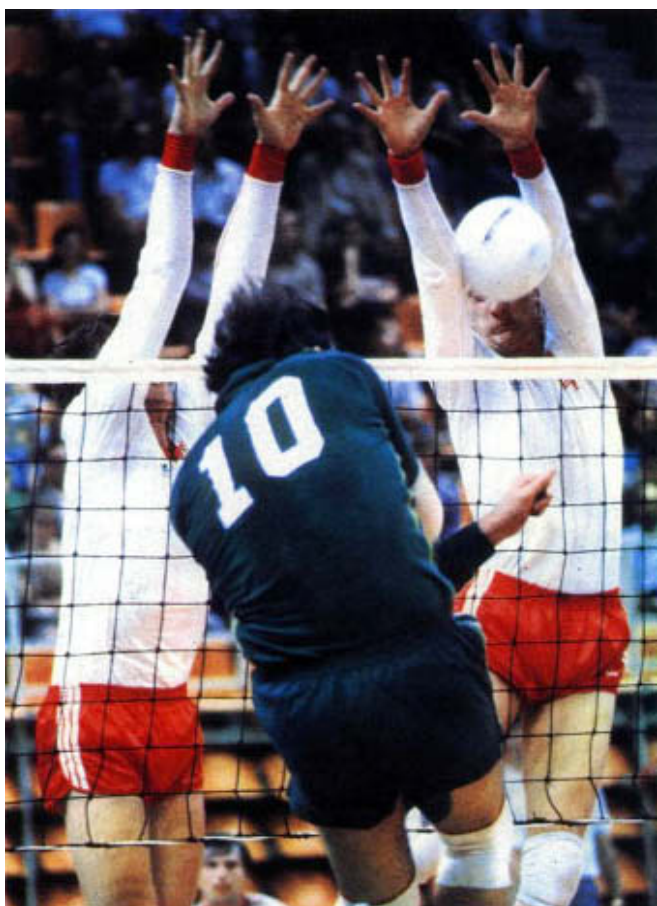




The volleyball competitions at the Games were held from July 20 to August 1 in two indoor facilities of Lenin Central Stadium—the Minor Arena (8,300 seats) and the Druzhba gym (seating capacity—3,900).

The playing courts had the Taraflex Sport-M covering, put out by the Bat Taraflex firm (France).

The game arenas were equipped with a multi-purpose electronic scoreboard (Electroimpex, Hungary) with two demonstration panels each: in Druzhba—an electro-mechanical panel from the Fock Djem plant with twelve lines of 36 light planes per panel; in the Minor Arena—the VBKM-Villes scoreboard with 11 lines of 30 light planes and a matrix last line on each panel.

Immovable stands and judges' hydraulic chairs produced by the firm Schelde International (Netherlands-Belgium) were installed. VL—200-MS-Super Micasa balls produced by Myojuo Rubber Industry Co. Ltd. (Japan) and nets by ASIKS Corporation (Japan) were used.

The FIVB Administration Council appointed 52 technical officials (referees, secretaries and members of special arbitration and other working FIVB commissions and juries of appeal). They represented 22 countries, including the USSR (16 persons).

Soviet auxiliary personnel numbered 75 persons.

The FIVB headquarters was housed in the Minor Sports Arena.

As at the previous Games, 10 men's and 8 women's teams (216 players from 13 countries) took part in the volleyball competitions.

The men's volleyball competitions consisted of preliminary, semi-final and final matches. The preliminary games were held in two groups of five teams per group—according to the round-robin system. Then the winning team from group A played the team which placed second in group B, and the winning team from group B played the team which placed second in group A. The winners of the semi-finals met in a match for first and second places; the losing teams played for third place.

The remaining teams of both groups also contested places 5-10 according to the "criss-cross" system,

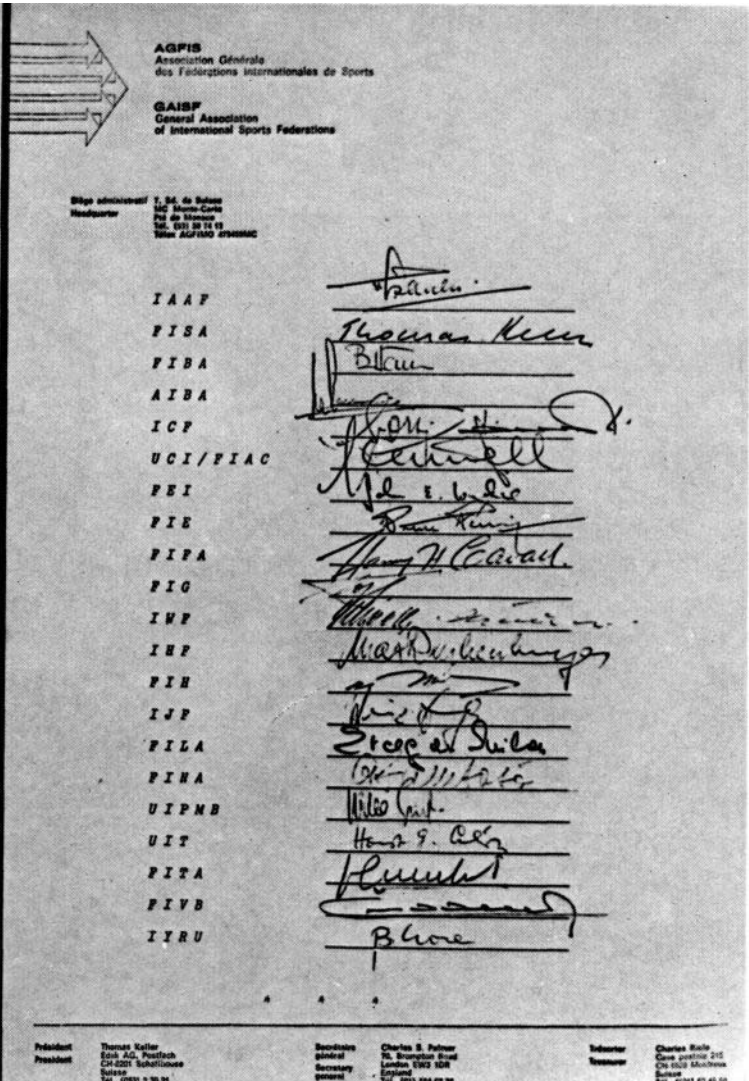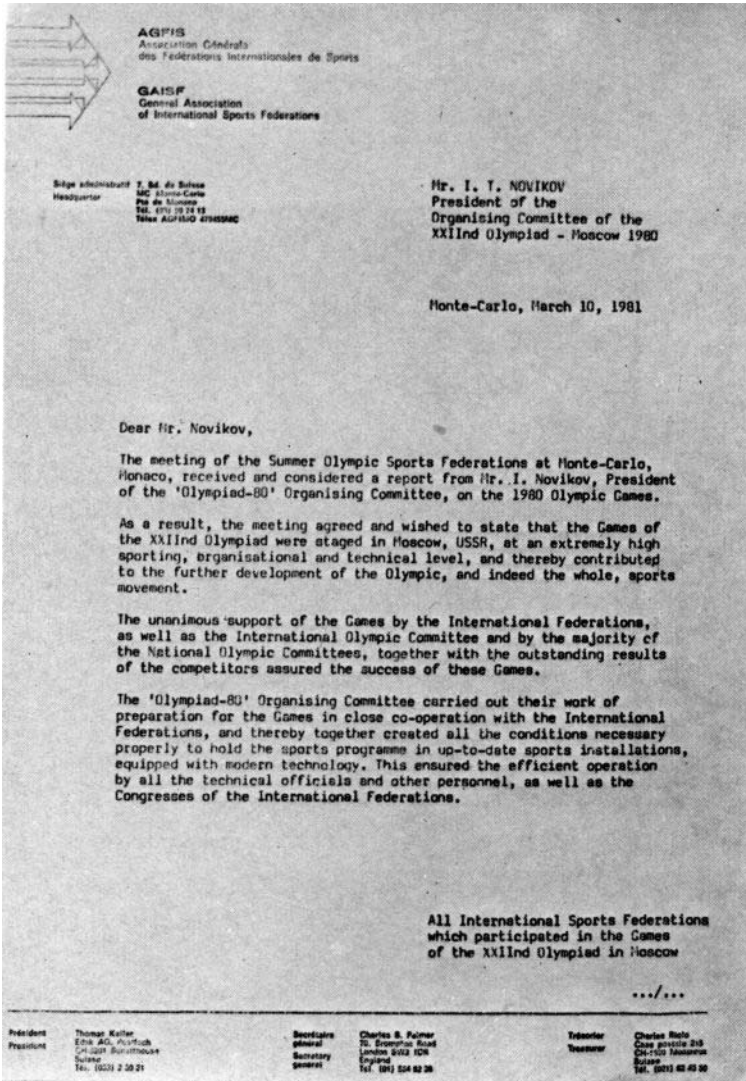The women's competitions likewise consisted of preliminary, semi-final and final matches. The preliminaries were held in two groups of four teams each. The tournament formula was the same as for the men's teams.

**Yachting**



The Olympic Regatta was held from July 21 through 29 in the Tallinn Bay of the Baltic Sea.

On staging yachting competitions see Chapter V "The Olympic Regatta in Tallinn".

AGFIS
Association Générale
des Fédérations Internationales de Sports

GAISF
General Association
of International Sports Federations

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Mr. I. T. NOVIKOV
President of the
Organising Committee of the
XXIInd Olympiad - Moscow 1980

Monte-Carlo, March 10, 1981

Dear Mr. Novikov,

The meeting of the Summer Olympic Sports Federations at Monte-Carlo, Monaco, received and considered a report from Mr. I. Novikov, President of the 'Olympiad-80' Organising Committee, on the 1980 Olympic Games.

As a result, the meeting agreed and wished to state that the Games of the XXIInd Olympiad were staged in Moscow, USSR, at an extremely high sporting, organisational and technical level, and thereby contributed to the further development of the Olympic, and indeed the whole, sports movement.

The unanimous support of the Games by the International Federations, as well as the International Olympic Committee and by the majority of the National Olympic Committees, together with the outstanding results of the competitors assured the success of these Games.

The 'Olympiad-80' Organising Committee carried out their work of preparation for the Games in close co-operation with the International Federations, and thereby together created all the conditions necessary properly to hold the sports programme in up-to-date sports installations, equipped with modern technology. This ensured the efficient operation by all the technical officials and other personnel, as well as the Congresses of the International Federations.

All International Sports Federations
which participated in the Games
of the XXIInd Olympiad in Moscow

.../...

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To sum up, one can conclude that the OCOG managed to plan correctly, to efficiently prepare and stage the competitions of the Games of the XXII Olympiad.

Six months after the closing of the Games J. A. Samaranch, IOC President, gave an interview to the *Izvestia* correspondent in Geneve in which he stated in particular, "The International Olympic movement is still under the favourable influence of the Moscow Olympics. The perfect organisation, precise rhythm, goodwill, the sincere interest and shared sentiments of the Soviet people have created unique conditions for the athletes from all over the world who came last summer to Moscow, Tallinn, Leningrad, Kiev and Minsk. This allowed to consolidate and develop the ideas of the Olympic movement."

The Games of the XXII Olympiad in Moscow were highly appraised by the General Association of International Sports Federations. On March 10, 1981 the Olympiad-80 Organising Committee received a letter from the GAISF, signed by all IF Presidents, which stated among other things that the meeting of the Olympic Summer Sports Federations, held in Monte-Carlo, Monaco, listened to and discussed the report, delivered by Mr. I. T. Novikov, Chairman of the Olympiad-80 Organising Committee, concerning the 1980 Olympic Games.

"As a result, those present came to the conclusion and wished to state that the Games of the XXII Olympiad were staged in Moscow, USSR, on an exceptionally high sporting, organisational and technical level and hence contributed to the further development of the Olympic and, naturally, of the entire sports movement."

"The unanimous support of the Games on the part of the International Federations, the International Olympic Committee and the majority of national Olympic Committees as well as athletes' outstanding performances had made these Games a success".

"The Olympiad-80 Organising Committee conducted its activities in preparing for the Games in close collaboration with international federations, thus creating all conditions, required for staging competitions under a sports programme using modern sport facilities and up-to-date equipment. This ensured the efficient operation of all technical officials and other personnel as well as the holding of congresses of international federations."

*All International Sports Federations which participated in the Games of the XXII Olympiad in Moscow*

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# Chapter V.
# The Olympic Regatta in Tallinn

The 75th Session of the International Olympic Committee held in Vienna on October 23, 1974 adopted a decision to stage the Regatta of the Games of the 22nd Olympiad in Tallinn—the capital of the Estonian Soviet Socialist Republic.

The heads of the International Yacht Racing Union (IYRU) had approved the idea of holding the Olympic Regatta in Tallinn as far back as in May 1974 (in case Moscow was chosen as the Games' host city), considering that the city's sports organisations have extensive experience in holding major international sailing competitions (the International Baltic Regatta has been held there 18 times).

Tallinn Bay is very convenient for holding sailing regattas. It was also taken into consideration that there were no strong currents or tides in the bay. The average wind velocity in July is 5.5 m/sec. Two islands provide good protection against sea waves. The average depth of the bay in the area of the sailing regatta is 35-40 m. The bottom is mainly sandy and the shores low.

The climate is also favourable: the mean July temperature is +17°; monthly precipitation does not exceed 50 mm.

The racing routes were from 2 to 10 km from the harbour.

Taking into consideration that the preparation for and holding of the Sailing Regatta are complex venture, the OCOG-80 adopted a decision to form in Tallinn the Olympic Regatta Organising Committee (OSR-80 Organising Committee) with the status of a public organisation. In essence, this committee was one of the commissions of the Organising Committee and functioned under its guidance. The 52 members of the OSR-80 Organising Committee were top officials in sports and public organisations and in the ministries and departments of the republic that took part in the preparation of the Regatta. It was headed by Arnold Green, Vice-Chairman of the Council of Ministers of the Estonian Soviet Socialist Republic, Vice-Chairman of the Organising Committee for the Games of the XXII Olympiad. Eighteen public commissions responsible for different types of work were formed under the OSR-80 Organising Committee.

The main aim of the OSR-80 Organising Committee and of these commissions was to groom Tallinn for the Games and hold the Regatta at a high organisational and technical level.

A section formed in Tallinn in August 1975 under the Organising Committee for the preparations and staging of the sailing competitions was reformed in 1978 into a department in connection with the increased volume of work.

The most important tasks of the Department in Tallinn were:

— preparations for the Sailing Regatta in conjunction with the Department of Sports Programmes of the Organising Committee and the USSR Yacht Racing Federation, in accordance with the Olympic Charter and IYRU Rules;

— supervision over the reconstruction of the existing facilities in Tallinn and construction of new facilities needed for holding the Regatta;

— creating necessary facilities for receiving and servicing competitors in the Regatta, officials, guests of honour, journalists and tourists;

— staging the cultural programme and holding protocol functions.

At the final stage of the preparation (from January 1980) and during the Games the functions of the department of the Olympiad-80 Organising Committee in Tallinn expanded to include 11 sections.

In the framework of the overall direction of the Games adopted by the Organising Committee an operational Centre for Staging the Regatta was set up in June 1980. It consisted of workers from the Department in Tallinn and from the republican ministries and departments. It was made up of 12 services (directorate for sport, a technical service, etc.) and five reception centres for those who arrived to the Olympic Regatta (at the airport, railway and marine terminals and at the hotels). The Operational Centre was directly subordinated to the chief of the Operational Headquarters of the Games in Moscow.

During the Games the Operational Centre tackled all the questions connected with conducting the regatta and servicing the competitors and other members of the Olympic family.

A total of 8,200 people from the republic's 15 ministries and agencies took part in providing for the competitions of the Olympic Regatta and servicing the competitors, officials, guests of honour, journalists and tourists.

# The Construction Project in Tallinn



The Master Plan for the Development of Tallinn, the capital of the Estonian Soviet Socialist Republic, envisaged the construction in the city and its suburbs of a number of sports facilities necessary for the development of mass sports and for townspeople to engage in physical culture. The facilities necessary for staging the Olympic Regatta, receiving and servicing its competitors, officials, guests of honour, journalists and tourists were designed and built with due consideration to the Master Plan.

The Yachting Centre, which was built on the shore of Tallinn Bay, in the estuary of the Pirita River (within the city limits), was the main sports facility.

The Yachting Centre is a unique complex consisting of a harbour, a hotel, a Yacht-Club with covered slips and shops, and a sports complex, making up a single architectural ensemble.

The plan of the Yachting Centre is shown on Fig.1 and the plan of the sports building floor on Fig.2

The main harbour parametres are: water area—193,000 sq m; total length of the piers—1,440 m; length of the slips—180 m; average depth of the harbour—3.5 m.



Yachting Centre. The Club

The harbour is intended for mooring 750 various vessels, including 150 keel yachts; 250 centreboarders at moorings, and 130 on racks; and 220 launches and cruiser yachts at moorings.

The stone and concrete-block moles protecting the harbour from
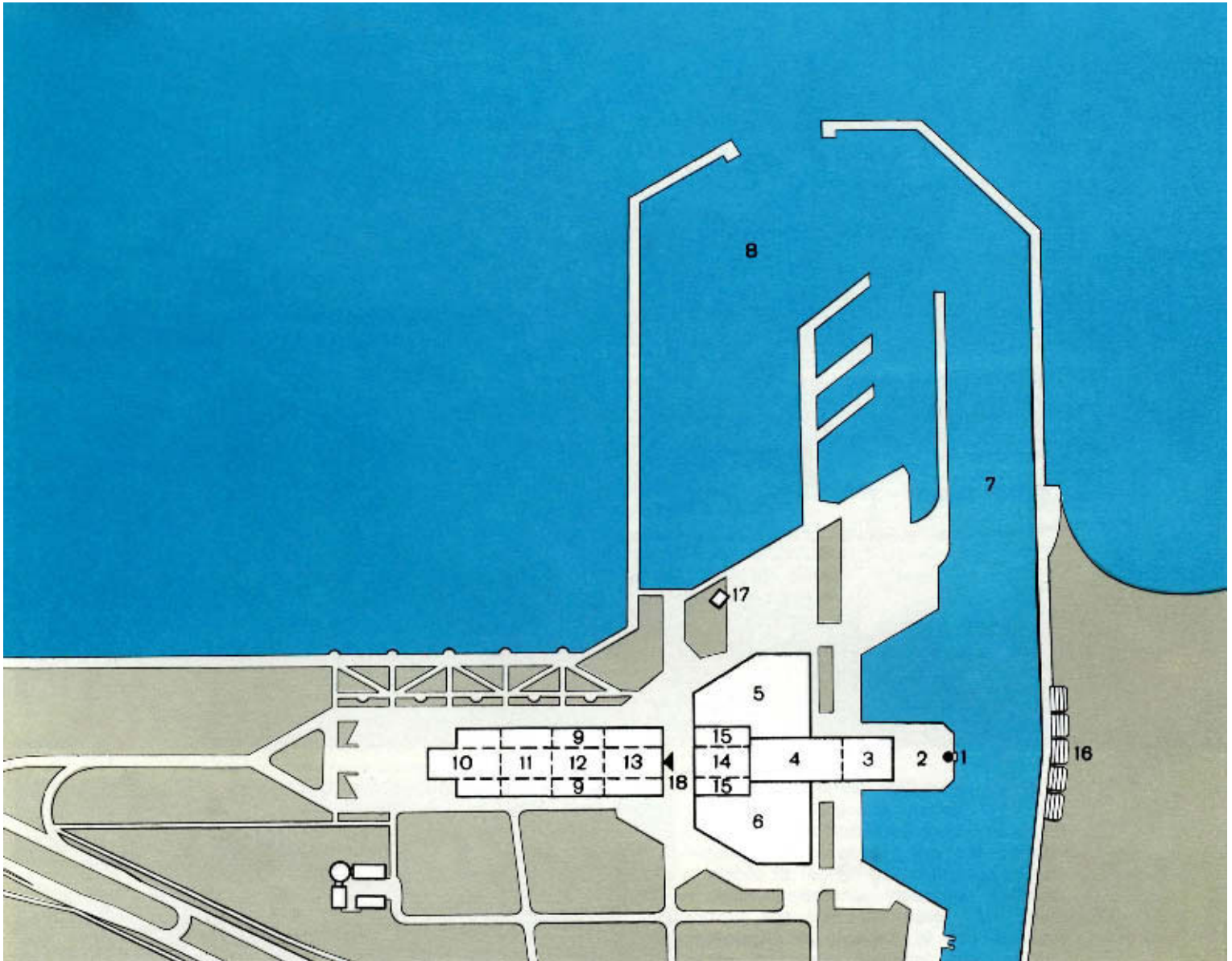
the waves have a 50 m wide entrance.

On the left of the central pier is a servicing harbour with a fuelling station, a crane, and a big slip for hoisting from the water and lowering vessels up to 25 t.

The yacht-club in which premises were allotted for IYRU headquarters, referees and various services of the Operational Centre is situated in the centre of the harbour.

The Yachting Centre complex is divided into three levels. The first level comprises transport approaches, storage, technical and managerial premises, the second level is given over to living quarters, sports gyms, a swimming pool, a first-aid station, a restaurant, the yacht-club; leisure terraces and the yacht-club's wardroom are on the third level.

**Yachting Centre
General Layout**
 1. Olympic Flame Bowl
 2. Square of Ceremonies
 3. Yachting-Club
 4. Bureau of Regatta
 5. Repair shops
 6. Press centre, radio and television
 7. River harbour
 8. Sea harbour
 9. Hotel buildings
10. Swimming pool
11. Sports hall
12. Cafeteria, café
13. International Club
14. Bowling alley
15. Club part of the hotel
16. Spectators' stands
17. Filling station
18. Main entrance
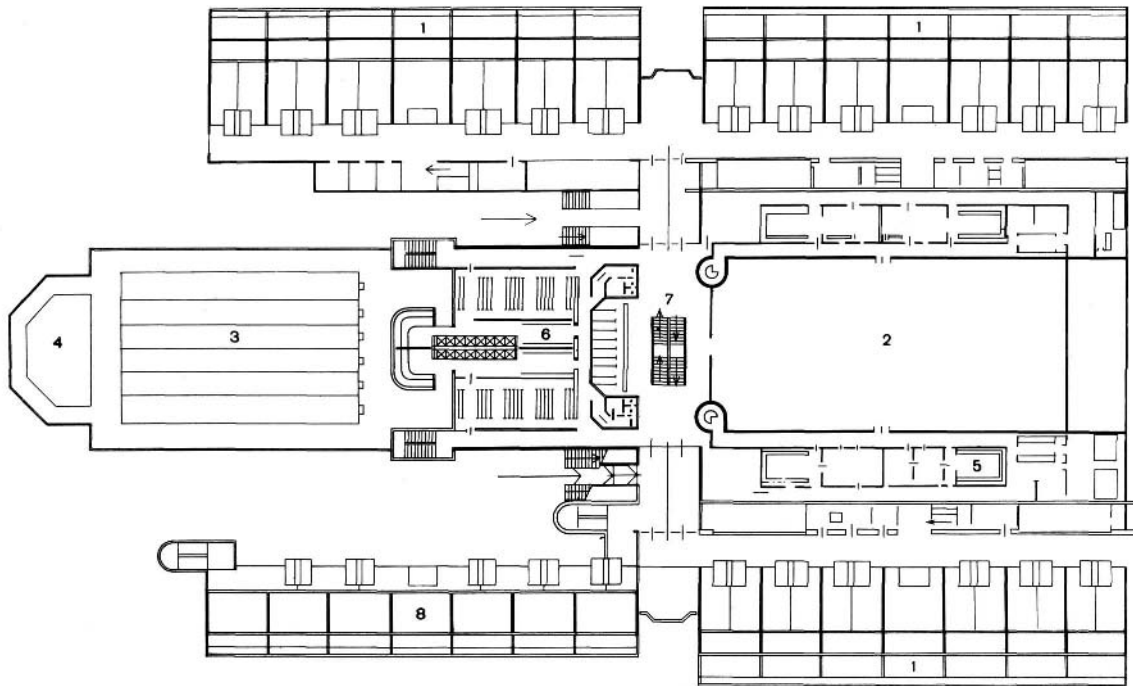
Sport Hotel at the Yachting Centre



Yachting Centre
**Sports Area and Hotels Plan**
1. Hotels
2. Sports hall
3. Swimming pool
4. Training pool
5. Dressing rooms of the sports hall
6. Dressing rooms of the swimming pool
7. Lounge of the sports area
8. Medical centre



The Pirita restaurant at the Yachting Centre

All the units of the complex are equipped with up-to-date engineering and technical systems.

The Yachting Centre housed the press-centre, which occupied premises on three floors with a total floor space of 5,000 sq m.

A description of the press-centre is given in Chapter XI "Press Service".

Among the servicing units under construction were a 28-storey Olympia Hotel for 800 guests situated in the city centre, a telephone exchange for 3,100 subscribers, and a public-service and shopping centre in Pirita, as well as a City Centre-Pirita speedway.

In connection with the building of the Yachting Centre, and in accordance with the Master Plan for the Development of Tallinn, the old shipyard in Pirita was dismantled, and a new sports shipbuilding plant was built instead; it provided Finn and 470 Class centreboarders for the competitors in the Olympic Regatta.

All the facilities necessary for holding the Olympic Regatta were built in keeping with the schedule. In the summer of 1979 the facilities and systems of the Yachting Centre were used during the sailing competitions of the VII Summer Spartakiade of the Peoples of the USSR and during the staging of the International Baltic regatta. The Yachting Centre provided good conditions both for the competitions and training of the participants in the regatta.



**Olympia Hotel in Tallinn**

## Staging the Olympic Regatta





**The Olympic Flame has arrived in Tallinn**

During the preparations and staging of the International Baltic regattas held in Tallinn in 1977-1979, and also during the finals of the VII USSR Summer Spartakiade, the organisers of the Olympic Regatta perfected the technology of staging regattas, along with the programme for providing for and servicing of these competitions.

The USSR Sailing Cup competitions held on June 14-20, 1980 were the last check-up of preparedness for the Olympic Regatta.

On the morning of July 19, 1980, people of Tallinn and guests of the capital of the Estonian SSR festively welcomed the Olympic flame, which arrived from Moscow. The Opening Ceremony of the Olympic Regatta was held in Pirita on July 20 on the Square of Ceremonies of the Yachting Centre.

The first race was held on July 21.

Taking part in the regatta of the 1980 Olympic Games were 269 members of the national sports delegations (yachtsmen, reserve crews and technical personnel) from 23 countries. Eighty-three yachts competed in the six classes.

Yachtsmen from Brazil, the GDR, the Netherlands, Poland and the USSR took part in races of all classes.

According to the Regulations, approved by the IOC and IYRU, and the Sailing Instructions, the Olympic Regatta included seven races for each class of the yachts. The Regulations allotted 12 days (including five reserve days) for the races. Actually the programme was fulfilled in eight days.

The competitions were held in three racing zones: Alfa, Bravo and Charlie. The distance markers of the zones formed a triangle whose orientation could change following the wind direction.

Races for two yacht classes were held in each zone: Alfa Zone was assigned to Finn and 470 centreboarders (distributed among competitors by drawing lots), Bravo Zone—to the Flying Dutchman and Soling classes, Charlie Zone—to the Star and Tornado classes. A pool of yachts was available in five Olympic classes offered to competitors free of charge.

The measuring and information equipment approved by IYRU was used at the competitions. It included:

— Akai Electric Co. Ltd (Japan) video-recording equipment installed on the jury boats;

— a set of timing equipment with automatic print-out of results by Swiss Timing-Hoyer Leonidas (Switzerland) with simultaneous feeding of the results into TV channels;
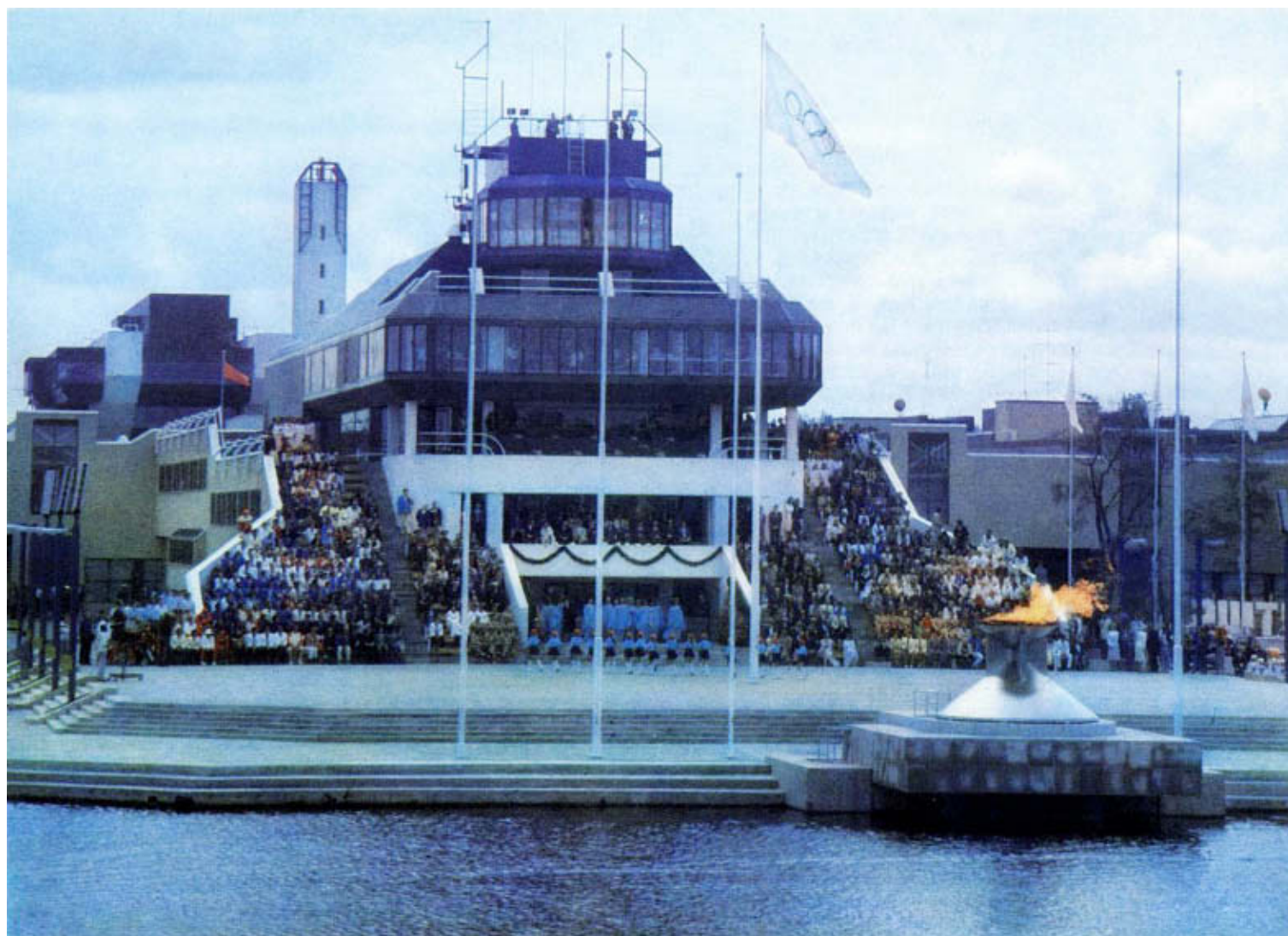
Table 1    **Scenes of the Opening Ceremony for the Regatta**

| Country | Yacht class and their number | | | | | | Number of participants | Number of reserves |
|---|---|---|---|---|---|---|---|---|
| | Finn | 470 | Flying Dutchman | Tornado | Star | Soling | | |
| Austria | 1 | — | — | 1 | 1 | — | 5 | 3 |
| Bulgaria | 1 | — | 1 | 1 | — | — | 5 | — |
| Brazil | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 2 |
| Hungary | 1 | 1 | 1 | — | 1 | — | 7 | 2 |
| Guatemala | 1 | — | — | — | — | — | 1 | — |
| GDR | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 3 |
| Greece | 1 | — | — | — | — | 1 | 4 | 1 |
| Denmark | 1 | — | 1 | 1 | 1 | 1 | 10 | 4 |
| Zimbabwe | 1 | 1 | — | — | — | — | 3 | 2 |
| Ireland | — | — | 1 | — | — | — | 2 | — |
| Spain | 1 | 1 | 1 | — | 1 | — | 7 | 3 |
| Italy | — | 1 | 1 | — | 1 | — | 6 | 3 |
| Cyprus | 1 | 1 | 1 | — | — | — | 5 | — |
| Cuba | 1 | 1 | — | — | — | — | 3 | — |
| Netherlands | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 4 |
| Poland | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 4 |
| Romania | 1 | — | 1 | 1 | — | — | 5 | — |
| USSR | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 3 |
| Finland | 1 | 1 | — | 1 | 1 | — | 7 | 4 |
| Czechoslovakia | 1 | — | 1 | — | — | — | 3 | — |
| Switzerland | 1 | 1 | — | — | 1 | 1 | 8 | 3 |
| Sweden | 1 | 1 | — | 1 | 1 | 1 | 10 | 4 |
| Yugoslavia | 1 | — | 1 | — | — | — | 3 | — |
| Total : | 21 | 14 | 15 | 11 | 13 | 9 | 154 | 45 |

— electronic log with the wind direction indicator by Navimor (Poland).

An alphanumeric scoreboard with 12 lines and 36 light-planes (Electroimpex—Ravis, Hungary) was installed for information purposes. The international jury kept a watchful eye on the observance of the rules of the races and of the provisions of the Sailing Instructions. The

jury gave high praise to the work of the referees. There was not a single protest (or remark) lodged on the work of the racing committees.

The Directorate was composed of three racing committees, a measurements committee, fleet service personnel, information service, technical service in the harbour, a yacht repair group, a material and technical group, doping-control group and hydrometeorological service group.

The measurements committee had a lot to do during the Games. Between July 7 and 17, measurements were taken of all the yachts that took part in the competitions. Moreover, daily control measurements were taken of the yachts in the water and the equipment used by lots. The technical officials and IYRU included 15 people from ten countries, among them three from the USSR. The Soviet support personnel included 236 people (36 measurers for the six classes).

The Olympic Sailing regatta was

removed floating objects, oil sleeks, etc. Limitations were introduced in the regime for passenger and cargo ships in the Tallinn roads. No situations threatening the safety of the racing yachts arose over the entire period of the Regatta.

The hydrometeorological service provided weather forecasts for the current and the following days, as well as forecasts of the wind direction and velocity on the distances.

Thirty samples of doping control (one sample daily in each class) were taken during the regatta and all of them were negative. The doping control was fulfilled in full measure without any refusals or failures by the yachtsmen to turn up for sampling.

Strong competition was a characteristic feature of the Tallinn Sailing regatta.

Olympic medals were awarded to yachtsmen from 12 countries:

Table 2

| Country | Yacht class and placings | | | | | | Medals |
|---------|------|---------|--------|-------------------------|-----|------|--------|
|         | Star | Tornado | Soling | Flying Dutch-man | 470 | Finn |        |
| Austria | II   |         |        |      |     | II   | 2 |
| Brazil  |      | I       |        |      | I   |      | 2 |
| Denmark |      | II      | I      |      |     |      | 2 |
| Finland |      |         |        |      | III | I    | 2 |
| GDR     |      |         |        |      | II  |      | 1 |
| Greece  |      |         | III    |      |     |      | 1 |
| Hungary |      |         |        | III  |     |      | 1 |
| Ireland |      |         |        | II   |     |      | 1 |
| Italy   | III  |         |        |      |     |      | 1 |
| Spain   |      |         |        | I    |     |      | 1 |
| Sweden  |      | III     |        |      |     |      | 1 |
| USSR    | I    |         | II     |      |     | III  | 3 |

serviced by 184 various boats.

The fleet personnel comprised 1,149 people including 284 workers of the Tallinn Department.

The Directorate for Sport, a subunit of the Operational Centre for holding the Tallinn competitions, directly supervised the Olympic Sailing Regatta.

The organisers of the regatta gave much attention to safety. They introduced daily control of the condition of the sea surface in the racing area, and

More than 32,000 spectators watched yachtsmen compete.

They were granted an opportunity to watch racings directly at sea (the organisers of the Olympic Regatta allocated nine vessels specially for the purpose).

Over 4,000 spectators watched daily on shore as yachts put out to sea and returned after the races, while an information board informed them of the progress of the races.
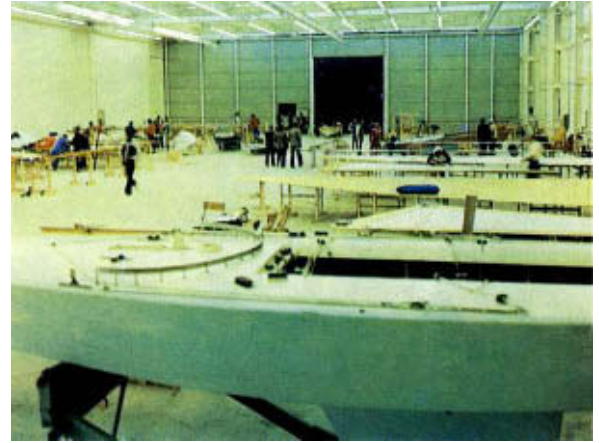
The Olympic Sailing Regatta was serviced by the ACS "Olympiad" two subsystems: the "Informatsia" Automated Control System and the "Olympiada-Parus" Automated Control System.

The "Informatsia" ACS, employing the IBM 370/148 computers in Moscow, had three 3275 IBM input units in Tallinn, two high-speed IBM 3780 printer units and five IBM 3275 "interrogation-response" units.

This subsystem supplied the competitors in the Regatta, officials, guests of honour, journalists and other spectators with the information about the results of the competitions both in Tallinn and in Moscow.

Additionally, the "Olympiada-Parus" ACS subsystem serviced the members of the Olympic family and spectators who were on shore during the races. It employed two Soviet-made ASVT M-7000 computers, installed at the regional data processing centre of the Yachting Centre.

This subsystem had already serviced international Baltic regattas, held in 1977-1979, as well as the sailing competitions of the 1979 VII USSR Summer Spartakiade and the 1980 USSR Cup.

A system for providing information for world news agencies (SIMTA-80), which had four terminals at the Yachting Centre, also functioned during the Regatta.

**Computer room of ACS "Sail" at the Yachting Centre**

**Workshops at the Yachting Centre**

**Boats for the media**

# Television and Radio Broadcasting





The Olympic regional TV and Radio Centre (ORTRC) with all the necessary television, cine-technological and radio-broadcasting equipment—a component of the television and radio-broadcasting system of the Olympiad-80—was set up for tele- and radio-broadcasting during the Regatta.

The ORTRC had at its disposal at the republic's TV and radio centre in Tallinn 390 sq m of production premises and 70 sq m for the studio.

A 314-m TV tower at the Republican TV and Radio Centre was built by the time of the Tallinn Regatta.

For the first time in the history of the Olympic Games portable video-recording cameras were installed on sea-bound launches for TV broadcasting. The use of video-recordings, which supplied the bulk of the materials for TV programmes, speeded up their compilation. Cinecameras were also used.

Direct radio broadcasts from the launches out in the bay were organised with the help of portable UHF stations. Direct broadcasts of the Opening and Closing ceremonies were also fed into the national TV circuit. The duration of all the TV and radio broadcasts during the Olympic Regatta amounted to 115 hours.

The three closed-circuit programmes (one programme for every distance of the sailing races) functioned at the Olympic Regatta. This was very convenient for the officials when analysing races in all the yacht classes.

# Communications

# International Contacts and Protocol

As it has already been noted, a telephone exchange for 3,100 subscribers was built in Pirita. Furthermore, the reconstruction of the Tallinn Central Telegraph, which connected subscribers to the international telex system, was completed by the start of the Games.

The Yachting Centre had 823 telephones in the city automatic telephone network, 73 direct channels and 200 switchboards.

During the Regatta there were 2,812 home and 1,908 international long-distance telephone calls made. Most of the intercity and international calls were semi-automatic.

One hundred and fifty-two channels for long-distance telephone service ensured the transmission of information about the Regatta for journalists, as well as for the Automatic Control System and for the Organising Committee's services, which fully covered the needs of the subscribers in giving information about the races.

A telegraph centre and three post-office branches ensured telegraph communications at the Yachting Centre. The telegraph centre had seven teletypes, two subscriber telegraph apparatus, two facsimile transmitters, three Infotek-6000 facsimile apparatus. There was an apparatus of the telegraph public network and three subscriber telegraph apparatus at each telegraph branch of the Yachting Centre.

The launches out in the bay were in radio-telephone contact at all times of the Regatta. A system of radio scanning was also used.

Seventy-nine newspapers and magazines from various countries of the world were on sale at the Yachting Centre. Over 24,000 copies of Soviet and foreign periodicals were sold.

The Department of the Organising Committee had control over the observance of the Rules of the Olympic Charter and IYRU requirements in preparing for and staging the Olympic Sailing Regatta, welcomed foreign delegations and individual officials, and organised meetings, talks and other protocol undertakings.

IOC members, IYRU officials and delegations of 14 NOCs came to Tallinn on many occasions during the preparatory stage of the Regatta.

During the Olympic Regatta Tallinn welcomed 24 IOC members, 25 guests of honour, five IF presidents and general secretaries, 17 NOC presidents, vice-presidents and general secretaries (all of them with those who accompanied them) and other officials.

The Department in Tallinn prepared everything necessary for holding the IYRU congress which was held there on July 27, 1980. Twenty-five delegates from the national yachting federations, five delegates from the Olympic class yachts associations and 42 observers took part in its work.

A number of protocol undertakings held in the Olympic Village included the ceremony of opening the Olympic Village, the ceremony of handing the symbolic keys to the Olympic Village to the national delegations, receptions in honour of the national teams participants arriving to the Olympic Village, parties devoted to the national holidays of the countries taking part in the Olympic Regatta, and so on.

The Organising Committee branch in Tallinn organised necessary training for interpreters and hostesses who discharged their duties creditably.

# The Olympic Village

The Olympic Village for the participants of the Sailing Regatta was a component of the Yachting Centre and had eight three-storey hotel blocks with eating facilities, a first-aid station, a complex for general physical training (two gyms and an indoor swimming pool) and an international club seating 200, situated between them. Premises were also provided for religious services.

The ground floors had three-bed suites (floor space 26.7 sq m), and the first and second—two-bed suites (18.5 sq m). All in all, the Olympic Village had 276 suites for 632 guests. The suites had all the necessary conditions for the national teams to live and rest.

Each of the teams had at its disposal a kitchen (with kitchen-ware), a room for drying clothes, a common room (with a TV set, a fridge, a typewriter and table games). There were rooms for ironing on every floor.

The self-service cafeteria of the Olympic Village (two halls seating 200 each) was open from 7 a.m. till 10 p.m. daily. Food for yachtsmen was served upon presentation of their accreditation cards.

The menu was compiled in such a way that no dish was repeated in the ten days of the Regatta. The daily nutrition of the dishes made up 5,000-5,200 calories. On the days they put out to sea yachtsmen received additional canned food.

Besides the cafeteria there were two bars in the Olympic Village. All the members of the national teams were supplied with beverages free of charge.

Various kiosks in the Olympic Village sold souvenirs, books, newspapers, and flowers. Over 30 kinds of everyday services were provided, including the repair and cleaning of clothes, laundry, repair of photocameras, watches, electrical appliances, sports gear, etc.

Yachtsmen made use of the post office and currency exchange.

A diversified programme of the international club set up in the Olympic Village enjoyed great success. Concerts, functions, film shows, etc. were held there daily. Yachtsmen made regular use of the amusement arcade, billiards and table games.

**The Olympic Village at the Yachting Centre**

## Information and Public Relations

## The Cultural Programme

The Department in Tallinn was engaged in the following work during the preparation for the 1980 Olympics: it popularised the 1980 Olympic Regatta, in particular, with the means of visual propaganda as well as with the help of competitions, festivals and so on, popularised the cultural programme of the sailing regatta, published various information materials and official literature.

Ninety special information editions were put out during the preparation for and holding of the Regatta. They were intended for members of the IOC, IYRU, NOCs, press, television and radio and for the official suppliers of the Organising Committee.

Moreover, 16 kinds of official reference books and instructions dealing with the Olympic Regatta were published in a total of 44,000 copies, and six kinds of the Olympic souvenir posters in a total of 24,500 copies.

Forty-two different special information brochures for the participants and officials were published during the Sailing Regatta in 75,000 copies.

The works of the winners of the Tallinn Sails international photo-exhibition were displayed at a special exhibition during the Regatta. Nearly 4,000 photographs were sent to this competition from 20 countries. Another exhibition displayed 400 best souvenirs and drawings on sports subject made by the republic's students. A competition of Olympic souvenirs and drawings "Made by Us", to which 2,000 samples were sent, was held to select the best works.

Sports events held under the motto "Olympiad for All!" during the preparations for the Regatta enjoyed great popularity in the republic. Nearly 367,000 people took part in them. Competitions in various sports were held within these undertakings among school students in the republic along with the competition which helped to select participants for the Olympic torch relay along the streets of Tallinn.

The Cultural Programme of the Olympic Sailing Regatta was held between June 28 and August 3, 1980. The best Estonian performing art groups, including amateur, took part in it. A total of 78 performances were given by the Tallinn theatres during this period. Theatre repertoires offered Russian and foreign classics and works by Soviet authors.

Velje Tormis, the USSR State Prize Winner and People's Artist of the Estonian SSR, staged the "Estonian Ballads" ballet in time for the Regatta.

Special note must be made of the concerts and performances which the State Academic Men's Chorus of the Estonian SSR, the model orchestra of the USSR Navy and other collectives gave at the Square of Ceremonies of the Yachting Centre.

The amateur art groups gave over 70 concerts and performances which were attended by 72,000 spectators.

The total of more than 300 performances given in Tallinn within the framework of the cultural programme were attended by 270,000 spectators.

Ten museums and eight various exhibitions were open during the Regatta in Tallinn.

An exposition "Estonia from Ancient Times to Our Days" was mounted at the Museum of History of the Estonian SSR. The Estonian Merchant Marine Museum displayed an exposition devoted to the history of Yachting. The park-museum of folk architecture and everyday life, in which over 30 various concerts and performances were held, enjoyed great popularity.

There were also two exhibitions: "Estonian Painting of the 40s-50s" and "Painting, Drawing and Sculpture of the Soviet Estonia of the 60s-70s". The exhibition "Flowers and Decorative Sculpture" evoked lively interest.

The traditional Song Fête of Estonia was exceptionally successful. Some 627 groups numbering 27,000 participants, took part in the republican Song Fête held in Tallinn on July 4-6.

The Folk Art Fête held on July 24-26 received high praise. The folk dance ensembles and orchestras which took part in it gave five concerts.

A Friendship Party devoted to the Opening of the Games of the 22nd Olympiad in Moscow was held on July 19 at the Dynamo sports arena. A Friendship Party devoted to the Closing of the 1980 Olympic Regatta was held at the same arena on July 30. They were attended by nearly 6,000 people.

A special cultural programme was worked out for the officials with due account of their free time and wishes. This programme was offered to the officials and their retinues free of charge.

The officials were also granted an opportunity to visit theatres and concert halls at their own expense.

Members of the Olympic family went to practically all the events of the cultural programme.

**A concert at the Singers' Field**

## Service and Tourism









Tallinn airport

Viru Hotel in Tallinn

In the streets of Tallinn

All the officials and journalists were accommodated at the comfortable Viru Hotel, situated in the city centre.

Tourists were accommodated in Olympia, Tallinn and Palace hotels. During the Games Tallinn welcomed 7,600 tourists, of which number 2,800 came from abroad.

Over 30 everyday services were available for officials and journalists, as well as for tourists. Eighty-four service outlets functioned at the hotels and in various districts of the city.

All the delegations and officials had cars and minibuses at their disposal. During the Games all accredited persons had free use of city transport (except taxis).

Special bureaus serviced the officials and tourists who came to Tallinn in their own cars and yachts.

A special medical service, which included a first-aid centre in the Olympic Village and a first-aid station in the harbour, had 125 doctors and other medical personnel. Medical service

was also provided at sea for participants in the Regatta.

During the Regatta, 1,866 people came to the first-aid centre for treatment, including 104 yachtsmen and 69 officials. They all received free medical aid.

The Yachting Centre and the organisation of the Olympic Regatta received general acclaim.

The IYRU Secretary General Nigel Hacking noted: "At last year's Baltic Regatta I stated that the organisers of the competitions of the Olympic yachtsmen prepared for 1980 Olympics at least a year ahead of the yachtsmen. Today they brought everything to the highest level of perfection. I must say that no other country in the world has a Yachting Centre like this. I think that as to its technical facilities it is a world centre for yachtsmen meet."

Lord Killanin, speaking at the Closing Ceremony of the Olympic Regatta in Tallinn, said that it was the best Regatta in the history of the Olympic Games.

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Scenes of the Closing
Ceremony for the Regatta

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Chapter **VI.** **The Olympic Flame Relay**

The relaying of the Olympic flame can be considered with good reason the ceremonial prologue to the Games. It also makes it possible to popularise the Games, and assists in the development of the sports movement among the people.

The lighting of the flame at Olympia and its delivery to the central arena of the Games has become a wonderful tradition of the Games.

The Olympic torch symbolises man's unquenchable thirst for peace, harmony and beauty. The Greek actress Maria Mosxoliou spoke beautifully of this when the relay of the Olympic flame was setting off on its way to Moscow:

"During the ritual lighting of the flame I have never been able to free myself from the feeling that I am coming into contact with something majestic and beautiful, created not just by a human fantasy but by a deep longing for principles of reason, for a festival of the humane ideas. The flame which is kindled in ancient Olympia carries a message of peace, confidence and hope to all people on this planet."

From the first days of its existence the OCOG-80 occupied itself with the problem of organising the relay of the Olympic flame. As early as February 1976, at the 77th Session of the IOC in Innsbruck the delegation from the OCOG-80 announced that the traditional method of carrying the flame had been chosen and that torch-bearing runners would be called on to bring the flame to the Moscow Games. This was confirmed at the following session of the IOC at Montreal. The decision of the OCOG-80 was based on the fact that a relay of runners is the most sporting method of delivering the Olympic flame, for by this method it is man who plays the leading, active role, as it is in the Games themselves.

In 1978 a Department of Olympic Torch Relay and of Opening and Closing Ceremonies was created within the Organising Committee. The Department consisted of two sub-departments; one for the Olympic torch relay and one for the Opening and Closing ceremonies. Each sub-department had nine members. In 1979 a Directorate for the relay was organised (24 members) responsible to the Department.

The Department was to work out the route of the relay, and to provide everything necessary for it, and at the same time to involve various enterprises and public organisations in the job in hand.

Olympic torch relay

# Preparing for the Olympic Torch Relay

During the preparation for the relay various routes which had been suggested were looked at, in particular the proposals by National Olympic committees that the Olympic torch should be carried through many of the countries of Europe or, indeed, on a round the world run. This however demanded a considerable expense and a great deal of time. The OCOG-80 proposed to organise the relay along the shortest possible route.

It was proposed to run the relay of the Olympic flame from Greece, through Bulgaria and Romania and from there across the USSR and the decision was confirmed at the 80th Session of the IOC in May 1978.

The overall length of the route was 5,000 km including 1,170 on the territory of Greece, 935 in Bulgaria, 593 in Romania and 2,302 in the USSR.

The whole route was divided into 1,000-m stages (some of the stages that ran through towns were slightly shorter). It was planned to take on average 4-5 minutes to cover each kilometre of the route. On some stages through Bulgaria and Romania the organisers of the festive ceremonies proposed to include cyclists and horsemen in the relay. One hundred and thirty-five ceremonies to meet the Olympic flame were planned along the route including 23 in Greece, 44 in Bulgaria, 27 in Romania and 41 in the USSR. In fact, there were 142 ceremonies.

The relay was to be run only in the daytime, except for the lap from Olympia to Athens, which according to tradition did not envisage any stopover.

Preparation for the relay called for close cooperation between the OCOG-80 and the NOCs of Greece, Bulgaria and Romania, with whom relevant agreements were concluded.

In 1978-1979, on the initiative of the Organising Committee, local organising committees were formed in the Republics, regions, districts, and towns of the USSR whose territory was crossed by the route of the relay. These committees were to prepare for the relay and assist its passage through their territory. Formed on a voluntary basis through the local Soviets of People's Deputies, these committees were to draw a wide range of enterprises, institutions, collective farms, public organisations and individual citizens into their work.

Preparations for the relay were accompanied by publicity about physical culture and sport, which created a new influx of people into sports clubs and groups. New forms of mass competition began to emerge, for example such open athletics matches as "The Olympic Kilometre", "The Olympic Torch", "All the family at the start", "Olympians among us". These took place not only in the regions which lay on the route of the relay but in other places too. These competitions were held in Greece, Romania, Bulgaria, as well as in the USSR.

It is worth noting that many of these sports programmes, which were begun during the period for preparation for the relay of the Olympic flame, have since become regular events.

In August-September 1979 a delegation from the OCOG-80 went on a tour with the aim of clarifying the route of the relay and getting to know the features of the road from Olympia to Moscow. Representatives of the NOCs of Greece, Bulgaria and Romania took part in this tour, as did delegates from the organising committees responsible for the relay on its passage through the USSR.

Following on from this tour a plan of measures to prepare the route of the relay of the Olympic torch was worked out and its implementation was concluded in May 1980. The whole length of the route was lined with the Olympic emblems, the stages were marked out and signposts were produced showing the distance from Olympia to Moscow. Parking and service areas were prepared for the accompanying column, and hotels were reserved for the escorting groups.

The torch bearers were handpicked by sports and public organisations. The right to carry the Olympic torch was considered to be a great honour. In choosing the runners the basic criteria were the personal sports achievement of the candidate, the ability to complete the 1,000 m distance in no more than five minutes, the contribution which each candidate had made to sports organisations, and medical approval.

In the USSR for example the OCOG-80 together with the bodies responsible for sports in RSFSR, the Ukraine and Moldavia (through these republics the torch was taken), as well as the local organising committees of the relay carried out a competition to select torch bearers in which almost 1.5 million people took part from whom 3,000 were chosen.

The task of selecting the torch bearers was concluded in May 1980: 1,250 athletes were chosen in Greece, more than 1,000 in Bulgaria and 700 in Romania.

In Bulgaria, Romania and the USSR trial runs were carried out along the route of the relay in May-June 1980. Runners learned how to use the torch, they were given an instruction



Cea de-a XXII ediție a Jocurilor Olimpice Moscova 1980

FLACĂRA OLIMPICĂ, Instrucție
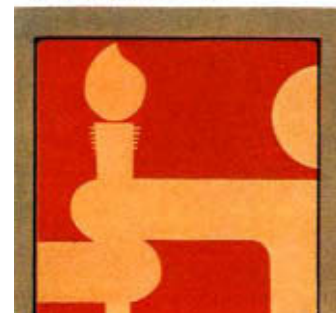
booklet on its use and they were shown a training film.

The material and technical services to the relay were provided in accordance with the agreement between the OCOG-80 and the NOCs of Greece, Romania and Bulgaria. The Organising Committee provided them with the necessary equipment.

Everything except the uniforms of the runners and the small ceremonial cups of the Olympic flame were manufactured by Soviet enterprises. The Japanese firm of Mizuno—Official Supplier of the Games of the XXII Olympiad—prepared free of charge the uniforms (shorts, singlets, socks, running shoes and head bands) and 50 ceremonial cups. There were 6,200 sets of the uniform in all, including spares.

The OCOG-80 offered all the necessary practical help to the NOCs of Greece, Romania and Bulgaria, and to the local relay committees in the

USSR on questions of the preparation and staging of the relay.

With this aim three meetings were held in Moscow in 1979 and 1980 for the organisers of the relay from these countries. Specialists from the Organising Committee several times travelled to Greece, Bulgaria and Romania and to the republican and region committees of the USSR to settle questions which had arisen in preparation for the ceremonial welcoming of the Olympic flame, to help in the selection and training of the torch bearers and so forth, to give advice on the use of the torches and other technical equipment.

Eight editions of the brochure "Instructions on the Relay" were prepared and sent out by the OCOG-80.

Plans for the ceremonial meeting of the Olympic flame at the state boundaries were agreed between the Organising Committee and the NOCs of Greece, Bulgaria and Romania.
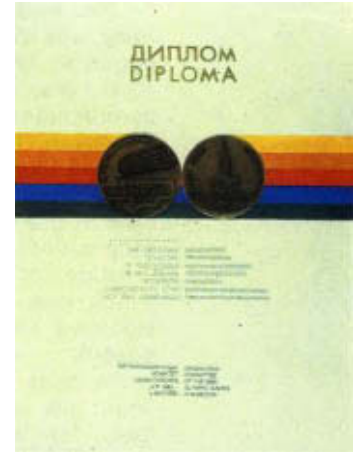
# The Torch, the Lamp for the Spare Flame, the Ceremonial Cups

The most important feature of the relay was the torch. Work on it was begun in 1978.

It was first proposed to use pyrotechnic components as fuel for the torch. However tests had shown that the high burning temperature and the build-up of waste called for great care in the use of the torch. This first proposition was only used in the creation of a variant of the torch which was to be carried around the stadiums (20 of this type were produced).

In general it was decided to use liquid gas (a propane-butane mix) as a fuel, for this could guarantee a regular flame and an optimum weight along with complete safety for the runner.

A group of Leningrad engineers under the direction of Boris Tuchin constructed a model torch over a very short period of time. After full testing it was recommended for series production.

The torch of the Moscow Olympics, in its construction and its outside appearance, did not resemble its predecessors. Its basic elements comprised a burner section, a ringed cup and protective screen, made from an aluminium alloy, along with the torch handle containing the gas reservoir. (See Fig...)

The cup and the screen were golden yellow while the burner section and the handle were of a silvery shade.

The protective cover carried the official emblem of the Games of the XXII Olympiad while on the burner section was inscribed "Moscow—Olympiad-80".

Dimensions of the torch: length—565 mm, minimum diameter—27 mm, maximum diameter—100 mm. Weight with full gas reservoir—700 g, burning time—8-10 min.

Leningrad enterprises provided the relay with 6,200 torches and the same number of gas reservoirs.

The torch was registered as an invention at the State Registry of Inventions of the USSR, inventor's certificate No. 729414 was given the group which had created the torch by the USSR State Committee on Inventions and Discoveries.

In order to guarantee the preservation of the flame lit at Olympia, it was kept in the special lamps. The OCOG-80 decided not to use a miners lamp for this purpose as the organisers of the previous Games had done. The same group of Leningrad scientists worked on a special lamp for the spare flame.

By May 1979 the model had undergone the test successfully.

The lamp for the spare flame was of a simple design and trouble-free. It could burn without a break for 48 hours. It was fueled either by kerosene or by liquified gas.

During the relay the lamp was carried in a special escort vehicle.

The technical means which were used to deliver the Olympic flame to Moscow also included the cups for the ceremonial greeting of the flame along the route of the relay. These cups guaranteed a steady burning of the flame over longer periods of time and were also used for the ritual handing over of the Olympic flame for safekeeping to the place where the relay stayed overnight.

A group of Moscow engineers under the direction of Alexandre Sergeev worked on two variants of the cup—a Small Cup (diameter 240 mm) and a Large Cup (diameter 750 mm). The fuel for both was a mixture based on dry spirit.

The Large Cup was collapsible which allowed it to be assembled or taken apart quickly and to be transported over any distance.

Around the burner of the Large Cup the words "Olympia-Athens-Sofia-Bucharest-Moscow" were worked in metal.

Twelve of the Large Cups were manufactured by Moscow enterprises. Some of these were sent to the NOCs of Greece, Bulgaria, Romania and to the Olympic cities of Tallinn, Leningrad, Kiev and Minsk. The rest were used during the course of the relay. Fifty of the Small Cups were handed over to the republican and region organising committees on the territory of the USSR.
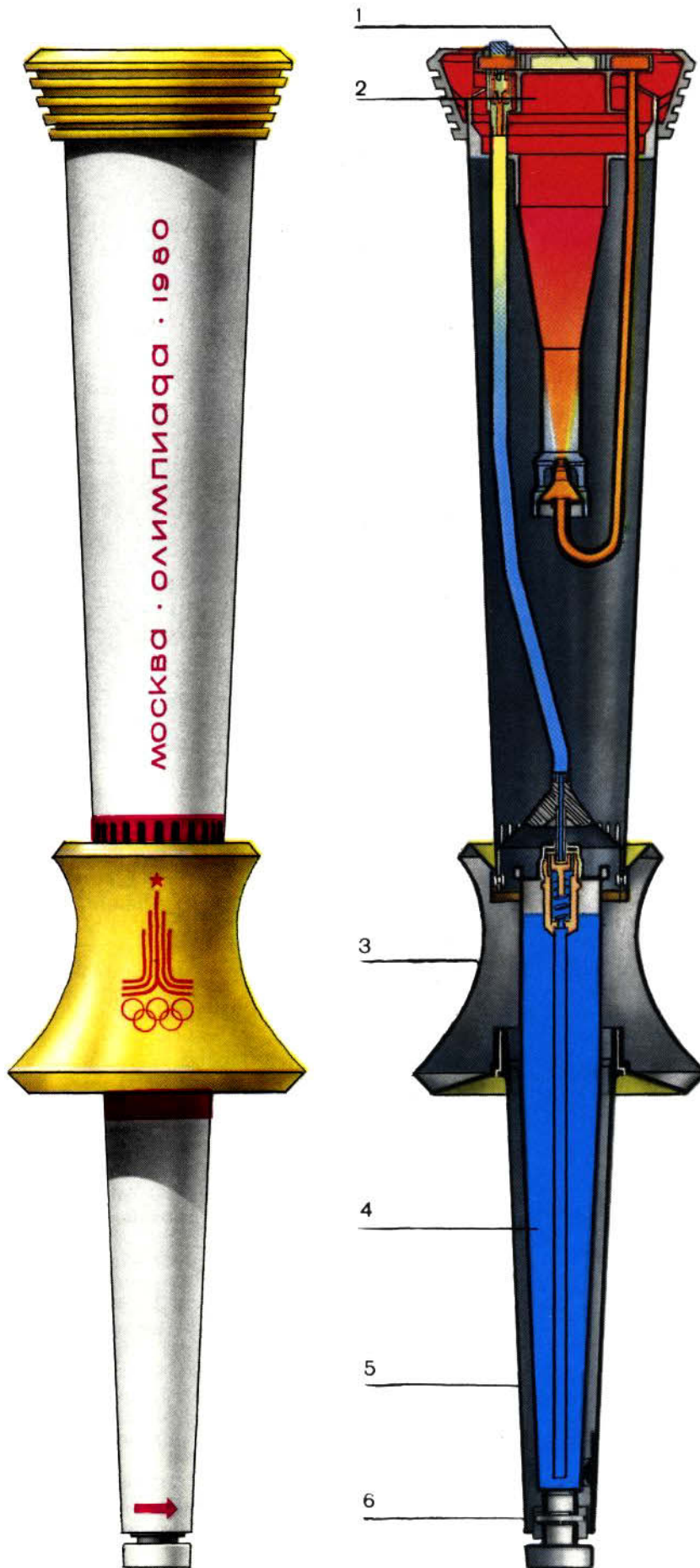
1. Burner
2. Olive oil ampule
3. Protective screen
4. Gas bottle
5. Handle
6. Gas-supply mechanism

Reserve miner's lamps

The Olympic flame bowl
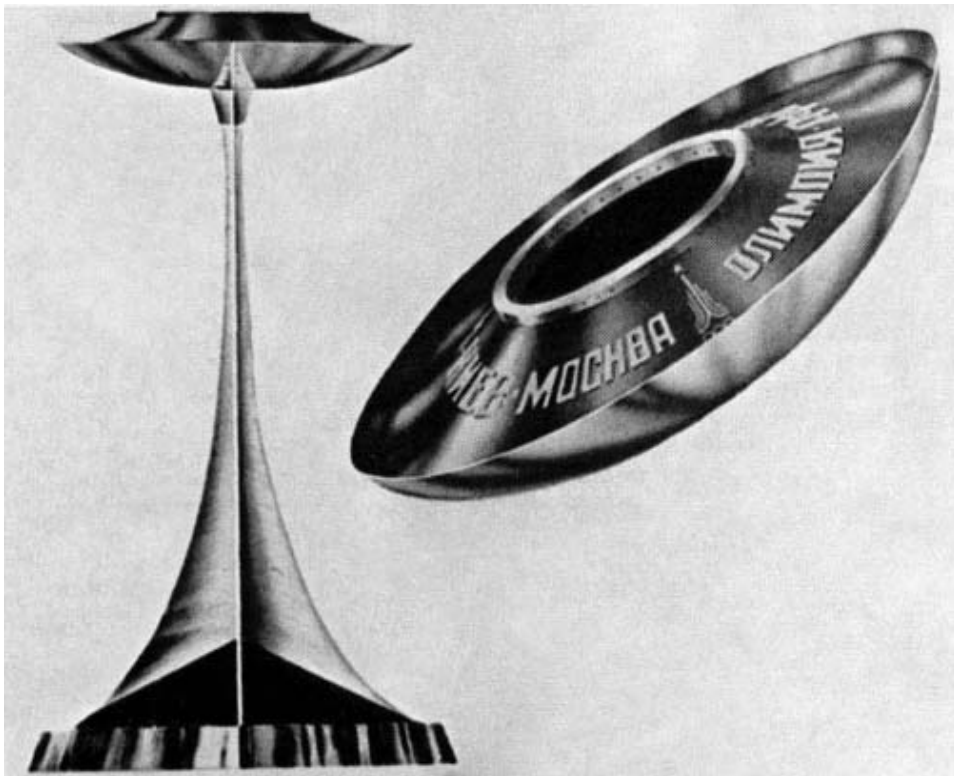
## The Escort Group and the Transport Column of the Relay



In accordance with practice in organising relays of the Olympic flame the OCOG-80 created an escort group.

This group was made up of staff from the Organising Committee, people who had worked on the design of the torches and the ceremonial cups, well-known Soviet athletes, interpreters, photographers, cameramen and journalists. On the territory of Greece, Bulgaria and Romania the group consisted of 24 people and in the USSR was increased to 54 on account of the increased number of journalists and technical personnel.

The escort group was to carry out the official reception of the Olympic flame from the NOC of Greece, its preservation and delivery, at the appropriate time, to the place where the Games were to take place. In addition the group was required to give any help needed to the NOCs of Greece, Bulgaria and Romania and to the local organising committees in the USSR.

The transport of the escorting column was made up of Volga (GAZ-24 and GAZ-2402); RAF-2907 and RAF-2908 minibuses and Karpaty LAZ-5255 bus.

By order of the OCOG-80 special escort vehicles were developed on the basis of their series models.

The saloons of the minibuses were equipped to carry the spare flame lamps, and were provided with refrigerators to store the gas reservoirs and with air-conditioning.

The Karpaty bus underwent major changes in the engine, transmission, chassis and bodywork. The saloon was constructed to enable it to be used as a mobile press-centre and it was equipped with air-conditioning, two colour televisions, a loudspeaker.

The transport column of the escort group, on the territory of Greece, Romania and Bulgaria, was made up of three RAF minibuses (for technical services, the spare flame lamps, and the representatives of the Mizuno corporation) and an information bus. On the territory of the USSR the column was increased to ten units. The NOCs of Greece, Bulgaria, Romania and the Soviet republican and region organising committees brought to the column additional vehicles for delivering the runners to the relay, sanitary services.

The Centre for the Olympic Torch Relay and Opening and Closing ceremonies was set up in Moscow headed by a Vice-President of the OCOG-80 who kept up round-the-clock contact with the escort group, decided any problems that arose and offered any help needed by the local organisers.

The Olympic flame escort vehicles

## The Relay

At 12.00 p.m. Moscow time on the 19th of June the ceremonial lighting of the flame of the Games of the XXII Olympiad took place at Olympia. The ritual was performed by the Greek actress Maria Mosxoliou.

Participants in the ceremony heard short speeches from the Vice-President of the NOC of Greece A. Lembecis, the Vice-President of the OCOG-80 Ivan Koziulia and the Mayor of Olympia A. Kytras.

Also present at the ceremony were member of the IOC and President of the International Olympic Academy Nikolaux Nissiotis, participants in the XX Session of the Academy, staff from the Soviet embassy headed by the temporary Charge d'Affaires of the USSR in Greece B. Panov, local people from Olympia and many tourists.

During the ceremony the national anthems of Greece and the USSR were played and a wreath was laid on the white-marble plate where the heart of Pierre de Coubertin, founder of the modern Olympic Games, lies at rest.

Maria Mosxoliou handed the torch with the Olympic flame and olive branch to the first runner, Atanasios Kozmopoulus, a 17-year-old high school student from Athens.

The light of the sun has lit the sacred torch, she said, and its flame, carried to Moscow, will light with its radiance the noble and peaceful competitions of the athletes of the world!

Accompanied by an escort of honour Kozmopoulus turned to the memorial to Pierre de Coubertin and then, to the sound of a solemn march, the relay set off on its way.

For the first two days (June 19-20) from Olympia to Athens, the relay travelled day and night, completing its journey through Greece in one week.

In the Greek villages and towns which the flame passed through the entire population came out to greet the relay. Many greeted the flame with laurel wreaths and palm fronds.

In Pirgos more than 5,000 people led by the local metropolitan and the governor of Ilia assembled for the ceremonial welcoming. More than 20,000 inhabitants of the town of Patra took up all the free space in the square around the platform that was raising up the ceremonial cup and the stage where artists were to perform. They spread out over the balconies and roofs of the surrounding houses and welcomed the torch-bearers with cries of "Peace, friendship".

"The Olympic flame, passing through such small towns as ours, would pass the love of the Greeks for the great festival in Moscow—the Olympics," said Mayor D. Kuenis in his address to the guests of his town and to 2,000 fellow citizens of Tirnavos.

Thousands of people filled the stands of the white-marble stadium in Athens long before the appearance of the torch-bearer. The festive ceremony was concluded with a concert.

On the last stage of the journey through Greece the torch was carried by champion of the Balkan Games teacher Vasilios Pitsos. The torch was carried onto Bulgarian soil by two times Olympic champion Boyan Radev.

The Olympic flame lighting
ceremony in Olympia

The Olympic flame in Greece
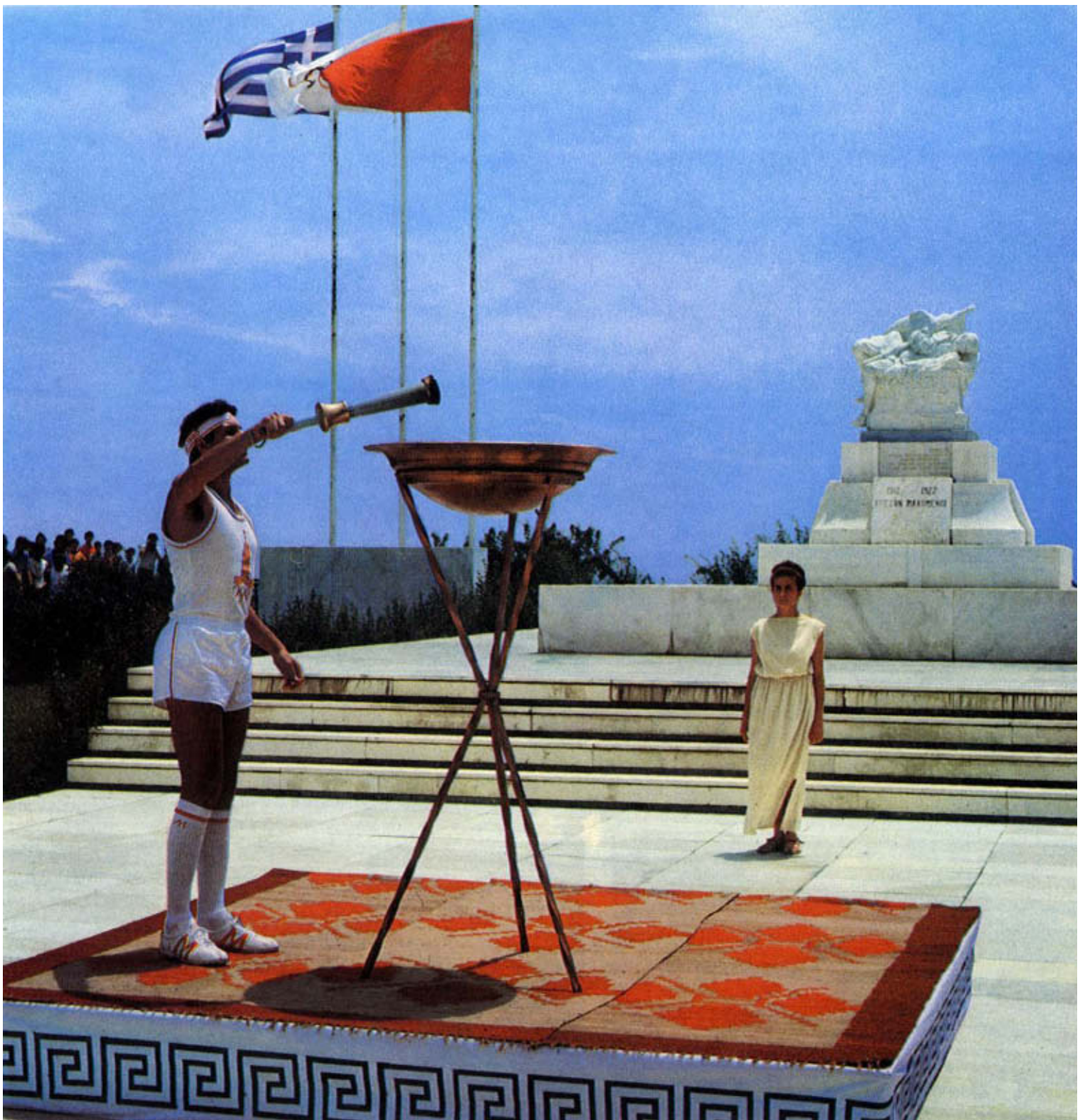


The relay of the Olympic flame across Bulgaria was turned into a colourful festival of sport and youth. All the welcoming ceremonies were accompanied by programmes of art and sports. The people from the local administrative councils showed a sense of fantasy and imagination. The sound of bells and singing welcomed the Olympic flame in the town of Veliko-Tyrnovo, the ancient capital of Bulgaria.

The torch-bearer escorted by 7 horsemen, dressed in ancient Bulgarian clothes, proceeded to the Tserevets fortress where they took part

in the festive greeting ceremony.

More than 10,000 people gathered on the legendary Shipka in spite of the unexpectedly cold weather (down to 0°C) and the squally wind. In the falling twilight they saw the horsemen placing the flame at the summit of the monument to the Russian general Stoletov. The demonstration was concluded with a brilliant firework display at around midnight.

A colourful ritual to welcome the flame took place at Sofia. Seventy thousand people packed the stands of the Vasil Levsky Stadium. They heard speeches pointing out the significance of the ceremonial transfer of the Olym-

pic flame to the place picked for the Games.

It is worth noting that wherever the relay came to a halt in Bulgaria memorials and plaques appeared. In Chirpan, Pazardjik, Stara-Zagora and other towns many streets were named in honour of the 1980 Olympics.

The festive atmosphere ruled in Bulgaria for six days. The flame was carried by 935 Bulgarian sportsmen and they were assisted by an escort of more than 1,500 people. More than 2 million people met the Olympic flame in hospitable Bulgaria.

The Vice-President of the Bulgarian NOC A. Solakov said:

**The Olympic torch relay crosses Bulgaria**

"The procession of the flame demonstrated our faith in the Olympic ideal. It has shown even more clearly the meaning of friendship among the peoples. The preparation and organisation of the relay has stimulated the popular movement for physical culture in our republic."

At 10.00 a.m. on the border bridge into Romania, which is symbolically named Friendship, the relay across Bulgaria came to its conclusion. On the last stage the torch had been carried by Olympic Champion Iordanka Khristova and now she passed it over to Olympic Champion Dimitru Pyrvulesku.

In Romania the relay passed through 89 towns, villages and hamlets. Young men and women in the uniform of various sports clubs stood by the side of the first few kilometres of the relay route through Romania. Thousands of people with flowers had turned out to meet the flame and applauded the relay as it passed.

The first stage of the relay through Romania was concluded with a ceremony in Bucharest: 40,000 people crowded into the Dynamo Stadium while thousands of people filled the streets outside. The ceremony included a full sporting programme.

Among those taking part in the relay in Romania were pioneers and labour veterans, Merited Masters of Sport and beginners.

On one of the stages the torch was carried by Ion Gudju, the 83-year-old president of the Romanian chess federation who has kept up his high spirits and his sporting form. He passed on the relay to Leon Rottman, twice champion at the Melbourne Olympics. Leon crossed over Lake Kherestrau in a small boat and handed the flame to Felix Tsopescu, who had taken part in the 1936 Olympics. This 76-year-old veteran, having completed his distance on a bicycle, passed the torch to his son, Constantine, one of the leading



The Olympic flame in Romania

commentators on Romanian television.

Included in the escort column in Romania was a car from the Romanian Federation of Radio Enthusiasts which carried the call sign "Olympic". In five days more than 2,000 radio link-ups with radio sportsmen of more than 40 countries were made, descriptions of the ceremonial meeting of the flame were broadcast.

The festival of meeting the Olympic flame in Romania was accompanied by exhibition displays of gymnastics and rhythmic gymnastics, mass athletics events, wrestling, football, volleyball and handball matches. More than 80 mass sports events took place during the passage of the relay through the country.

As in Bulgaria and Greece the relay in Romania had called forth great enthusiasm from among the population.

We knew earlier that the 1980 Olympics' relay would create a big interest, said deputy leader of the escort group from the Romanian NOC A. Vrabija, but all the same we had not expected such as enormous number of people who would like to take part in the festival of welcoming the flame. The relay has helped us in the development of sports.

The passage of the relay through the USSR began on July 5.

The transfer of the Olympic flame to Soviet athletes took place on the frontier bridge over the River Prut, close to the Moldavian village of Leusheny.

The torch was at first taken by Olympic champion Pyotr Bolotnikov, who had been given it by Olympic champion Nicolai Martinescu.

Thousands of young boys and girls in Moldavian national costumes, sportsmen and schoolchildren formed a human corridor through which ran Pyotr Bolotnikov followed by his assistants. His route was strewn with flowers.

Boys and girls in the costumes of the fifteen Union republics of the USSR met the torchbearer with traditional greetings. The relay was welcomed by the greatly loved Olympic mascot "Misha the Bear" and by the hero of Moldavian fairy-tales Gugutse.

The torch was carried not only by Moldavian athletes but also by those from the republics which the route of the relay did not pass through: Rome Olympic medallist, field athlete Gusman Kasanov of Kazakhstan; Munich Olympic medallist N. Sabaite-Rezene from the Lithuanian SSR, Oleg Sheiko, head of a jogging club from Byelorussia, Azerbaidzhani athlete Sadyk Sadykov and others.

The relay was met by the inhabitants of many Moldavian towns and settlements. The ceremonial meetings became festivals of sports and art.

The ceremony in the Moldavian capital of Kishinev included exhibition displays by leading athletes.

These displays included gymnastics and rhythmic gymnastics, acrobatics, wrestling, fencing, and were followed by folklore dancing.

The Olympic relay in the Ukraine produced some touching moments. A 76-year-old peasant and twice hero of Socialist Labour Evgenia Dalinyuk came from far away Ternopol area to see the relay. She said:

"The Olympic Games are a sacred event—we are all warmed by the Games flame."

Not far from the village of Tarasovtsy dairymaid Nadezhda Grishko built a well with her own hands next to the road and drew the Olympic Misha on the side of the well. When she met a runner at her well she held out a decorated tray with a jug of water. On the whole route through the Ukraine the peasants met the relay with the traditional pitcher of clean, cool water.

The overflowing streets of Kiev gave a thunderous welcome to the torchbearers. The 100,000 inhabitants of the city who took part in the ceremony of welcoming the flame in the central square appreciated at its true worth the presentation describing the history of

The Olympic flame in the USSR

the modern Olympics which was put on for them. There was ecstatic applause when fellow Ukrainians who had been victorious at the Helsinki, Melbourne, Rome, Tokyo, Mexico, Munich and Montreal Games stepped up to the bowl with the Olympic flame.

The Olympic flame was handed over to the sportsmen of the Russian Federation at a solemn ceremony which took place on July 14. The flame was warmly welcomed by the inhabitants of the decorated for the occasion towns and settlements along the route through the territory of the RSFSR. On the borders of the Tula region on the route of the relay was a five metre high *samovar*— the distinctive emblem of the town. Traditional merrymaking with a market place and clowns, with a folk orchestra and peddlers preceded the arrival of the runner in the town stadium. More than 7,000 athletes, artists and amateur performers took part in this happy festival which was dedicated to the arrival of the flame in Tula.

On July 18 the Olympic flame reached Moscow. Hundreds of thousands of Muscovites greeted the relay of peace and friendship in the streets and avenues which had been decorated for the occasion. The official welcoming ceremony was held at Sovietskaya Square outside the building of the Moscow City Soviet of People's Deputies. The Olympic Flag, the state flags of Greece, Bulgaria, Romania and the USSR, multicoloured pennants and standards with the em-

The Olympic torch relay has come to Moscow

The Olympic flame meeting ceremony in Sovietskaya Square

The Olympic flame near the building of the Moscow City Soviet

blem of the Games decorated the square.

At exactly 16.00 hrs to the chimes of the Kremlin bells Olympic champion M. Koshevaya lit the ceremonial bowl at the centre of the square with the torch which had been passed to her on the last stage of the relay.

The arrival of the Olympic flame in Moscow was welcomed by the Chairman of the Executive Committee of the Moscow City Soviet of People's Deputies Vladimir Promyslov and the President of the OCOG-80 Ignati Novikov, who gave short speeches.

After this torches were lit from the bowl and messengers from Tallinn, Leningrad, Kiev and Minsk ceremoniously received them. They were led with an escort to the Moscow railway stations from which the flame was sent in special wagons to those towns which, along with Moscow, were playing host to the Games.

Then the flame in the small ceremonial bowl was lit and carried into the building of the Moscow Soviet, where it was left in safekeeping until the opening day of the games.

The then Chief of Protocol of the IOC Juan Antonio Samaranch (now the president of IOC) took part in the ceremonial meeting of the flame, along with members of the IOC, presidents of the IFs, the NOCs, honoured guests of the Games, top athletes and public figures.

On July 19 torch-bearers placed the flame in the Grand Arena of the Central Lenin Stadium—the main arena for the Games of the XXII Olympiad.

On July 20 the relays brought the Olympic flame to Tallinn, Leningrad, Kiev and Minsk and in the same way the relay ended with the lighting of the flame in the competition sites.

The relay became a triumphant procession for the Olympic ideas. About twelve million people took part in the solemn ceremonies and welcoming of the flame along the whole route from Olympia to Moscow. Hundreds of thousands of athletes, artists and enthusiasts of the physical culture movement from four countries took part in the preparation and realisation of the relay itself and of the welcoming ceremonies.

The torch-bearers showed a fine example of selflessness and dedicated service to the Olympic movement and in memory of their participation in the relay each runner kept the torch as well as the uniform he wore.

Chapter **VII.**

# The Opening and Closing Ceremonies

The Opening Ceremony and Closing Ceremony, essential elements of the Games, provide a good opportunity for demonstrating the basic Olympic ideals and principles.

The OCOG-80 strove to stage the two official ceremonies in a way that would embody Olympic continuity and would harmonise with the spirit of the times, and reflect the multi-faceted life and culture of the Soviet people.

The preparatory work and the staging of the two ceremonies was entrusted to the OCOG-80's Department of the Olympic Torch relay and Opening and Closing Ceremonies. One of the Department's initial top priority jobs was the drafting of scenarios. It involved in this work well-known Soviet artistes and physical education and sports figures with experience in staging gala performances and sports pageants.

In drafting the scenarios they drew a clear distinction between the official (protocol) section of the ceremonies, which was to take place in strict conformity with the Olympic Charter, and the pageant.

The scenarios were completed in June 1979 and were approved soon after by the Organising Committee Presidium and then by the IOC Executive Board.

The Department of Olympic Torch Relay and Opening and Closing Ceremonies set up a production and direction group headed by Professor Joseph Tumanov, People's Artist of the USSR and USSR State Prize Winner, to translate the scenarios into reality. Assistant Professor B. N. Petrov, People's Artist of the RSFSR and Merited Coach of the RSFSR, was appointed chief director of the sports section of the ceremonies; People's Artist of the USSR Odissei Dimitriadi was named chief conductor; People's Artist of the USSR and Leninist Komsomol Prize Winner Mikhail Godenko was named chief ballet-master; People's Artist of the USSR Vladislav Sokolov, USSR State Prize Winner, was appointed chief choirmaster; Raphael Kazachek was named chief artiste.

A Directorate of the Opening and Closing Ceremonies of the Games was organised by the Department in 1979 to handle material and technical facilities, select participants and arrange rehearsals.

# Preparatory Stages

The OCOG-80 set up a public commission headed by one of its Vice-Presidents to settle problems arising during preparations for the Opening Ceremony and Closing Ceremony.

The commission examined the scenarios, sketches of the stadium decor, sketches of the costumes and properties, the composition of the participants in the pageants, and so on, thus contributing to the success of the ceremonies.

To ensure strictest observance of the Opening and Closing ceremonies protocol the OCOG-80 frequently consulted with Juan Antonio Samaranch, then Chief of Protocol, and Secretariat of the IOC Director Monique Berlioux.

The OCOG-80 worked out a strict timetable coordinating all the services involved in meeting the protocol requirements, and planned the entrance and departure of the participants in the parade (the official Opening Ceremony was conducted in two hours, as planned; the official part of the Closing Ceremony lasted 50 minutes). The artistic programme and sports performances lasted 62 minutes in the Opening Ceremony, and 37 minutes in the Closing Ceremony.

Selection of the participants in the ceremonies was a major aspect in the preparatory stage.

OCOG-80 workers collaborated with USSR Sports Committee representatives to work out the requirements for the training of the participants in the mass sports performances. The requirements for the selection of professional and amateur performers in the choreographic section of the programme were set by the chief ballet-master of the ceremonies.

The opening ceremony at the Seventh USSR Summer Spartakiade in Moscow in August 1979 enabled the organisers to test separate elements for the Olympic Opening Ceremony and Closing Ceremony.

In January 1980 the organisers arranged ten-day experimental gatherings of gymnasts to determine and select the most expressive elements of the sports performances for the ceremonies, and five-day practical classes for ballet-masters from the Soviet republics to enable sports and choreographic groups to continue further preparations on home grounds.

The unique nature and scale of the Friendship of the Peoples choreographic suite that was planned, with the participation of members of amateur and professional dance companies from the Soviet Union's 15 republics, demanded painstaking preparation. Week-long zonal training sessions were held in the home localities of these companies. They included a session in Tashkent for dance companies from the Soviet Central Asian republics and Kazakhstan, in Klaipeda for companies from the Soviet Baltic republics, and similar sessions elsewhere. OCOG-80 officials, the chief ballet-master and other experts attended the sessions.

In June 1980 the sports and choreographic groups that were to take part in the Opening Ceremony and Closing Ceremony gathered in Moscow for training and rehearsal sessions to put the finishing touches to their programmes. The performers included students from all of the Soviet Union's 24 colleges of physical education, gymnasts from all sports societies, and professional and amateur performers from such well-known groups as the Krasnoyarsk Dance Company of Siberia, groups at the Palace of Culture of the Likhachov Motor Works and Maxim Gorky House of Culture, both in Moscow, the dance group of the House of Culture of the Vinnitsa Machinery Works, the Folk Dance Company of the House of Culture at the Cable Works in Yerevan, Armenia, the Martishor Folk Dance Company of Moldavia, the Rossa Company from Lithuania, Rannitsa Folk Company from Byelorussia, the Minar Folk Dance Company from the Azerbaijanian Medical College, and the Sõprus Dance Company of the Estonian Republic, among others.

The participants in the sessions were put up in Moscow student hostels. They trained and rehearsed in Moscow stadiums.

In the final stage of the preparations three general rehearsals and one dress rehearsal of both the Opening Ceremony and Closing Ceremony were held at the Grand Arena of the Central Lenin Stadium. Here each element, detail and performance, as well as the programmes as a whole, were finalised and polished.

The parade of the participants is among the longest and most tiring sections of the ceremonies. In view of this precise timetable for the march-by and the optimum plan of the lining-up of each contingent on the field of the stadium were worked out. OCOG-80 workers had a series of meetings with chefs-de-mission to discuss their delegations' participation in the parade.

The OCOG-80 took steps to provide the material and technical facilities for the two ceremonies.

More than 1,500,000 articles and objects (sports uniforms, costumes, properties, apparatus and structures for gymnastics performances, and so

on) were acquired or made for the ceremonies. Many of them embodied original engineering and artistic ideas. In particular, a "live pathway" to the Bowl of the Olympic Flame was used instead of the stairs. It consisted of 170 structural elements which were assembled in about 15 seconds by athletes sitting in the stands.

Later the attributes of the ceremonies that were symbolic in nature were donated to Moscow museums. The sports uniforms, properties, and structural elements were turned over to trade union sports societies.

Arrangements for the quick transportation of the participants in the ceremonies and also of the properties, structural elements and other objects had to be planned painstakingly and in detail. Routes, charts and timetables were worked out.

An all-city rehearsal of the transport facilities that would serve the Opening Ceremony and Closing Ceremony was held on July 5.

Transport arrangements to deliver the participants of the ceremonies to Lenin Stadium for the parade were also rehearsed. This enabled the organisers to spot bottlenecks and to determine ways of making the most efficient use of the motor transport facilities. For instance, they revised the timetables for the delivery of participants from their quarters, determined where and when they would get into the vehicles, and clarified the parking places at Lenin Stadium and the adjacent areas. As a result, it took only an hour and a half to carry all the delegations from the Olympic Village to Lenin Stadium and for them to line up and be ready to come out into the field.

Eight hundred buses were used to carry the participants in the two ceremonies to Lenin Stadium.

The dress rehearsal in Lenin Stadium on July 17, 1980, confirmed the preparedness of all the participants in the artistic and sports programmes and of the supporting services.

# The Opening Ceremony



On July 19, 1980, the Moscow weather improved greatly, as promised in the forecast by the USSR Hydrometeorological Service. The spectators, including tens of thousands of visitors from abroad, filled the stands of the Grand Arena of the Central Lenin Stadium to capacity.

At 4 p.m., strictly according to the scenario, dozens of powerful loudspeakers carried the Kremlin chimes across the stadium. The spectators greeted with applause the appearance of Leonid Brezhnev, Chairman of the Presidium of the USSR Supreme Soviet, in the central box. He was accompanied by Lord Killanin, President of the IOC, Ignati Novikov, President of the OCOG-80, and Juan Antonio Samaranch, the IOC Chief of Protocol.

The theme song of the Games, a festive overture by Dmitry Shostakovich, announced the beginning of the Opening Ceremony.

The parade was preceded by a colourful procession in which youths and girls in ancient Greek costumes rode around the arena in three chariots, symbolising continuity of the Olympic ideals of antiquity with those of the modern Games.

In keeping with tradition, the Greek delegation opened the parade. The delegation from the Soviet Union brought up the rear.

The delegations of the participating countries lined up on the green turf, in front of the central stands, as provided for by the scenario.

In conformity with Olympic protocol, Ignati Novikov, President of the OCOG-80, came up to the microphone. He said:

"Comrade Chairman of the Presidium of the Supreme Soviet of the USSR!

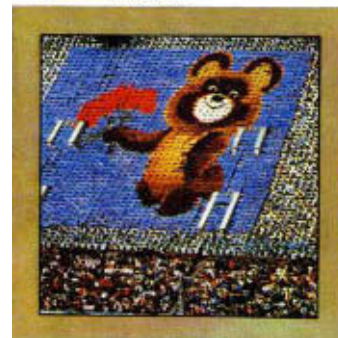"Mr. President of the International Olympic Committee!

"Esteemed Members of the Olympic family!

"Distinguished foreign guests!

"Ladies and gentlemen!

"Comrades!

"The Organising Committee of the 1980 Olympic Games in Moscow ex-





At the central box of the Grand Arena

The Opening Ceremony begins

Participants in the parade on the field of the Grand Arena

tends its warm and sincere greetings to all those present at the Central Lenin Stadium and the world sport community on the occasion of opening the Games of the XXII Olympiad.

"We express our gratitude to the National Olympic Committees which accepted our invitation and sent their sports delegations to Moscow in order to take part in this magnificent festival of youth and sport.

"The city of Moscow, dozens of thousands of the Soviet people have done everything to ensure the staging of the Games to high sports, organisational and technological standards and in full conformity with the rules of the Olympic Charter.

"We tried to make the Olympic Games in Moscow a large-scale and representative celebration where athletes of all continents could show their achievements, as much as we wished that these Games would give a new impetus to the development of the Olympic movement, foster dissemination of the lofty Olympic ideals, strengthening of mutual understanding, friendship, and peace between nations.

"The Organising Committee for the Games of the XXII Olympiad has always coordinated its activities with the International Olympic Committee, International Sports Federations and National Olympic Committees.

"The Presidium of the Supreme Soviet of the USSR and the Soviet Government rendered permanent support to the Games of the XXII Olympiad.

"The Organising Committee wishes the Competitors to achieve their best results and to win the Olympic medals in fair and honest competitions.

"I have the honour to introduce Lord Killanin, President of the International Olympic Committee, to whom I extend the warmest welcome."

Then Lord Killanin took the floor:
"President Novikov,
"Thank you for introducing me.

"I would like to welcome all the athletes and officials here today, especially those who have shown their complete independence to travel to compete, despite many pressures placed on them. I must repeat that these Games belong to the International Olympic Committee, and are allocated purely on the ability of the host city to organise them.

"I ask you to compete in the true spirit of mutual understanding above all differences of politics, religion or race, in the wonderful facilities provided here. The Organising Committee has at all times complied with the IOC Rules.

"I have the honour to invite President Leonid Brezhnev to proclaim open the Games of the XXII Olympiad of the Modern Era, initiated by Baron Pierre de Coubertin in 1896."

Leonid Brezhnev, Chairman of the Presidium of the Supreme Soviet of the USSR said:

"Esteemed Mr. President of the International Olympic Committee!
"Athletes of the world!
"Dear guests!
"Comrades!
"I proclaim the Games of the XXII Olympiad of the Modern Era open."

Next the unrolled Olympic Flag was brought out, escorted by 22 athletes carrying white pigeons. As the Olympic Anthem was played the white flag with the five interlocking coloured rings was run up on the flagpole. Simultaneously, pigeons were released.

**IOC President Lord Killanin delivering the speech of welcome**

**The OCOG-80 President Ignati Novikov speaking**
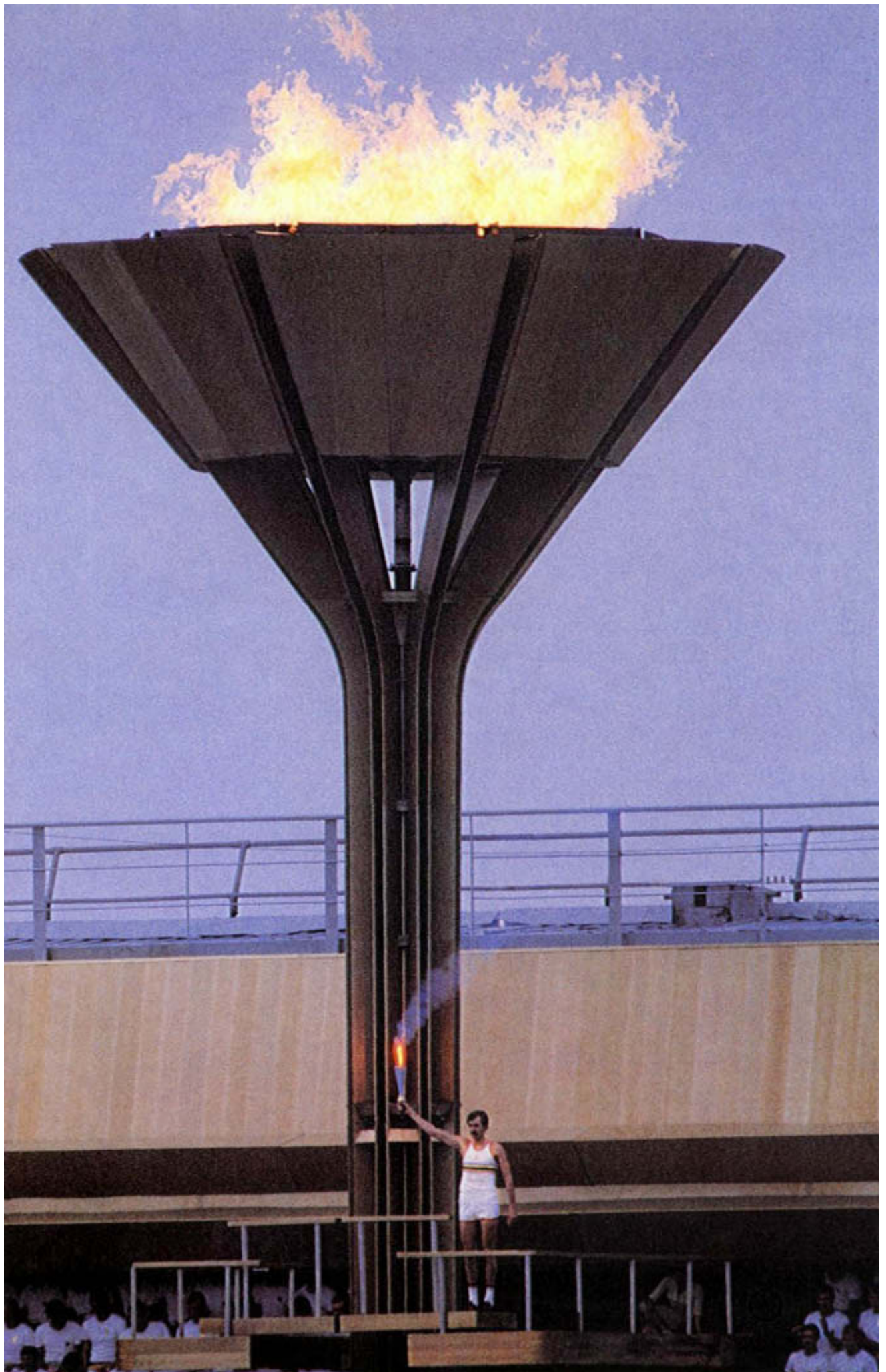
**At the Opening Ceremony**





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Olympic champion Viktor
Saneyev on the track

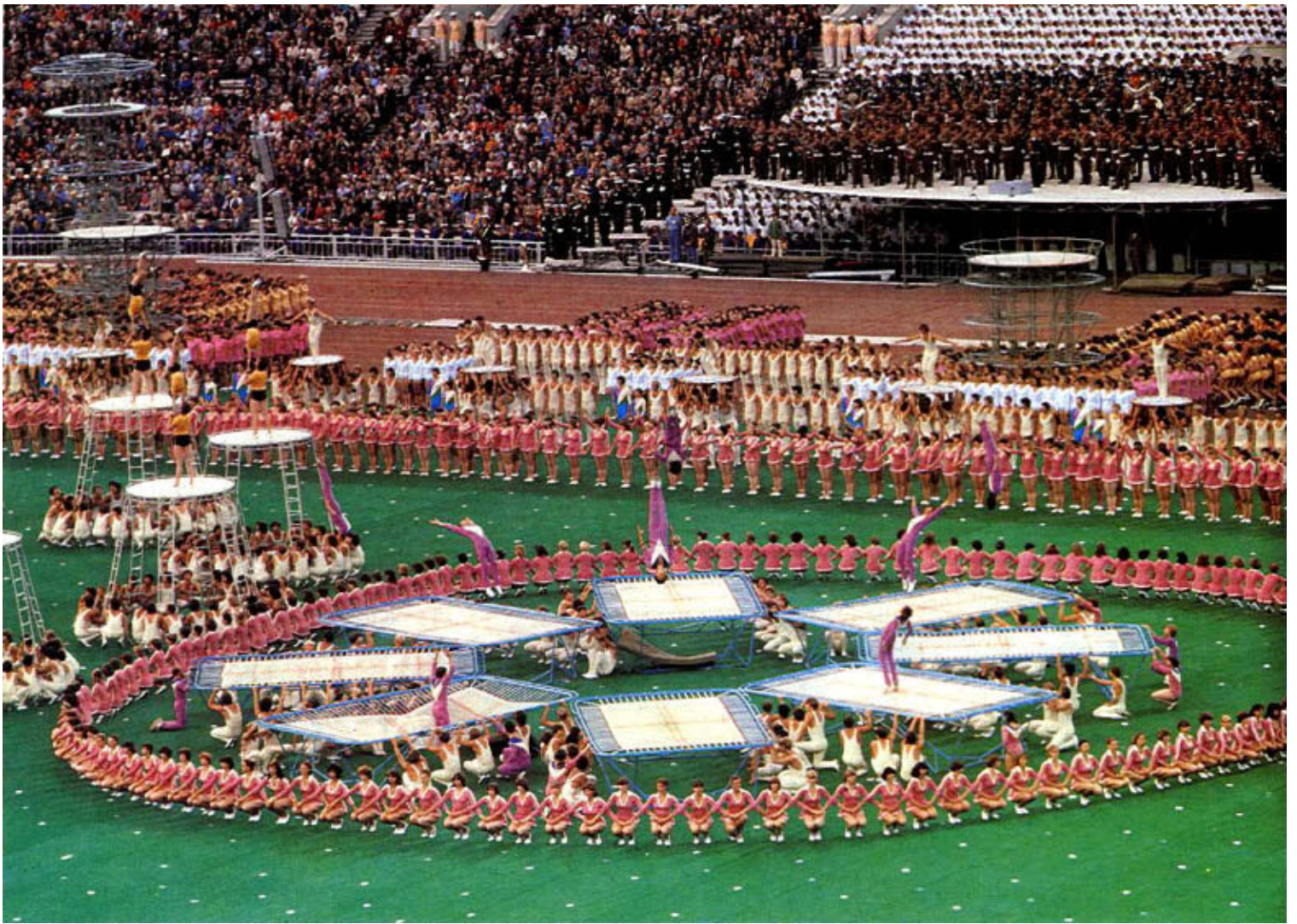Olympic champion Sergei Belov
running up to the Bowl



Olympic champion Nikolai
Andrianov taking the oath on
behalf of all the competitors

In keeping with Opening Ceremony protocol, a delegation from Montreal passed on the official Olympic Flag to the IOC President, who to an ovation from the spectators transferred it to Moscow representatives.

Exactly on time, three-time Olympic gold medallist, Victor Saneyev, ran into the stadium carrying the Olympic Torch. At the flagpole flying the Olympic Flag he passed it on to Olympic gold medallist Sergei Belov. Before the eyes of the amazed spectators a pathway connecting the field with the Bowl of the Olympic Flame took shape above the heads of athletes in the East Stands. Sergei Belov ran up along it to the Bowl and lit the Olympic Flame. Thousands of pigeons soared skywards, to the strains of the "Ode to Sport", written for the Opening Ceremony by Soviet composer Eduard Artemyev.

Olympic gold medallist Nikolai Andrianov took the Olympic oath on behalf of all the participants in the Games. He was followed at the microphone by international referee Alexander Medved, a three-time Olympic gold medallist, who pledged, on behalf of the referees, to carry out his duties impartially, in conformity with

**Artistic performance**

**Scenes from the artistic programme**

the rules and in the spirit of true sportsmanship.

The official part of the Opening Ceremony ended with the Anthem of the Soviet Union. The delegations left the field, and the artistic and sports programme began.

The first to enter the arena, at 6 p.m. were 150 standard-bearers and 800 athletes in gymnastic outfits. They formed a "Sun" composition in the centre of the field. Columns of youths and girls in national costumes of the 15 republics of the Soviet Union ran towards it from all sides, forming sunrays. Formations of thousands of participants in the Friendship of the Peoples dance suite created a series of brightly-coloured pictures on the field.

*Troikas*—carriages drawn by three horses each, running abreast—raced along the track. About 2,000 youths and girls took part in a gymnastics display. Gymnasts and acrobats demonstrated their skill. A group of young gymnasts in bear cub costumes won an ovation from the spectators.

Two thousand athletes from the Trudoviye Reserve Sports Society formed the five Olympic rings on the field, with four-tier live "vases" in the middle of the rings.

A feature of the Opening Ceremony was a huge coloured "picture screen" in the eastern stands. Here, by flashing combinations of the 5 coloured flags, 7 changeable shirt fronts, 7 painted panels and 5 caps which each of them had, a team of 4,500 athletes formed a total of 174 mosaic-like pictures that succeeded one another according to the scenario.

In the finale all 16,000 participants in the programme came out onto the field. The athletes in the stands created a mosaic picture of the Earth with a star on it symbolising Moscow, host of the Games.

The spectators continued to applaud long after the performers left the field.

## The Closing Ceremony



Preparations for the Closing Ceremony went ahead at the same time as those for the Opening Ceremony.

While the Organising Committee took the experience of previous Games into account the scenario included many new and original features.

The Closing Ceremony took place on August 3, 1980, in the Central Lenin Stadium strictly in keeping with the Olympic Charter.

In the boxes of the western stands were leaders of the Soviet state, Lord Killanin, Honorary President of the IOC, Juan Antonio Samaranch, the newly-elected IOC President, and Ignati Novikov, President of the OCOG-80, members of the IOC, presidents and general secretaries of IFs and NOCs, Olympic gold medallists, Parliament Members from various countries, mayors of the capitals of many countries and members of the diplomatic corps.

More than 100,000 Muscovites and visitors to the capital were in the stands of festively-decorated Lenin Stadium.

At 7.30 p.m., as provided for by the scenario, Olympic athletes stepped onto the running track to the accom-

paniment of a march. They marched all together in one column, demonstrating the friendship among young people from all continents united by loyalty to the Olympic ideals.

The spectators applauded the envoys of world sport who had demonstrated their will to win, courage and high prowess in the Olympic arenas.

Pictures of highlights of the Games were flashed on the electronic scoreboard. The spectators saw Cuban weightlifter Daniel Nuñez; Pietro Mennea, the Italian sprinter, running a lap of honour; Australian swim-

mer Michelle Ford scoring a victory in the Olympiisky swimming pool.

A picture of the five interlocking coloured rings appeared on the tableau in the stands.

When the participants in the parade had lined up on the field the national flags of Greece and the Soviet Union were hoisted on flagpoles and their national anthems were played. Then, as the Olympic Anthem was played, the flag of the American city of Los Angeles, venue of the next Olympic Summer Games, was hoisted.

Lord Killanin came up to the microphone. He said:

**A scene from the artistic programme**
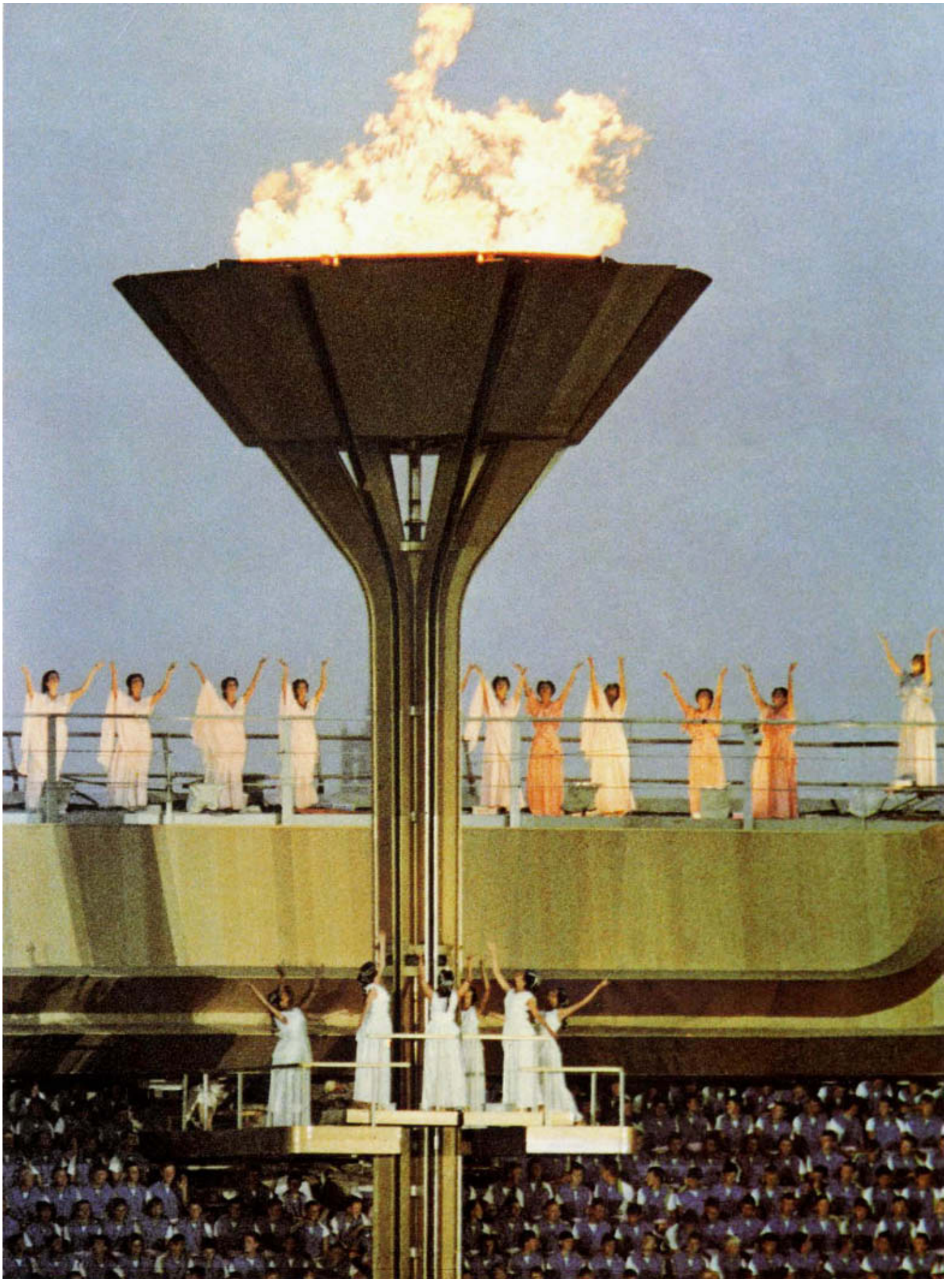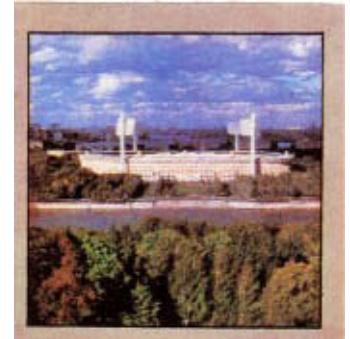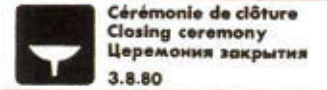
**A scene from the Closing Ceremony**

"I have shortly to close the Games in accordance with tradition, but before doing so, I would ask as I did at the close of the Winter Games at Lake Placid to implore the sportsmen of the world to unite in peace before a holocaust descends. Alas, sport is intertwined with politics but, and I do not mind being accused of being naive, sport and the Olympic Games must not be used for political purposes, especially when other political, diplomatic and economic means have not been tried. The Olympic Games are for the benefit of our children.

"The sportsmen gathered here for the Games of the XXII Olympiad have shown their great friendship despite their varying colours, religious or political philosophies in fair competition—let us love our neighbours.

"The standards and records of the many individuals are ample proof of the great performance obtained at these Games and I only grieve for those who were not able to participate.

"This is my last appearance as President of the International Olympic Committee and I wish my successor, Juan Antonio Samaranch, every good wish and pledge my support as Honorary Life president for the future in the problems he will have to face. Also I must thank all the members of the IOC, IFs and NOCs who have assisted me during my term of office. In the name of the International Olympic Committee I offer to President Brezhnev and to the people of the Soviet Union, to the authorities of the City of Moscow and to the Organising Committee of the Games, our deepest gratitude. I thank the competitors, officials, spectators, the media and all those who have contributed to the success of these Games. I declare the Games of the XXII Olympiad closed and in accordance with tradition, I call upon the youth of all countries to
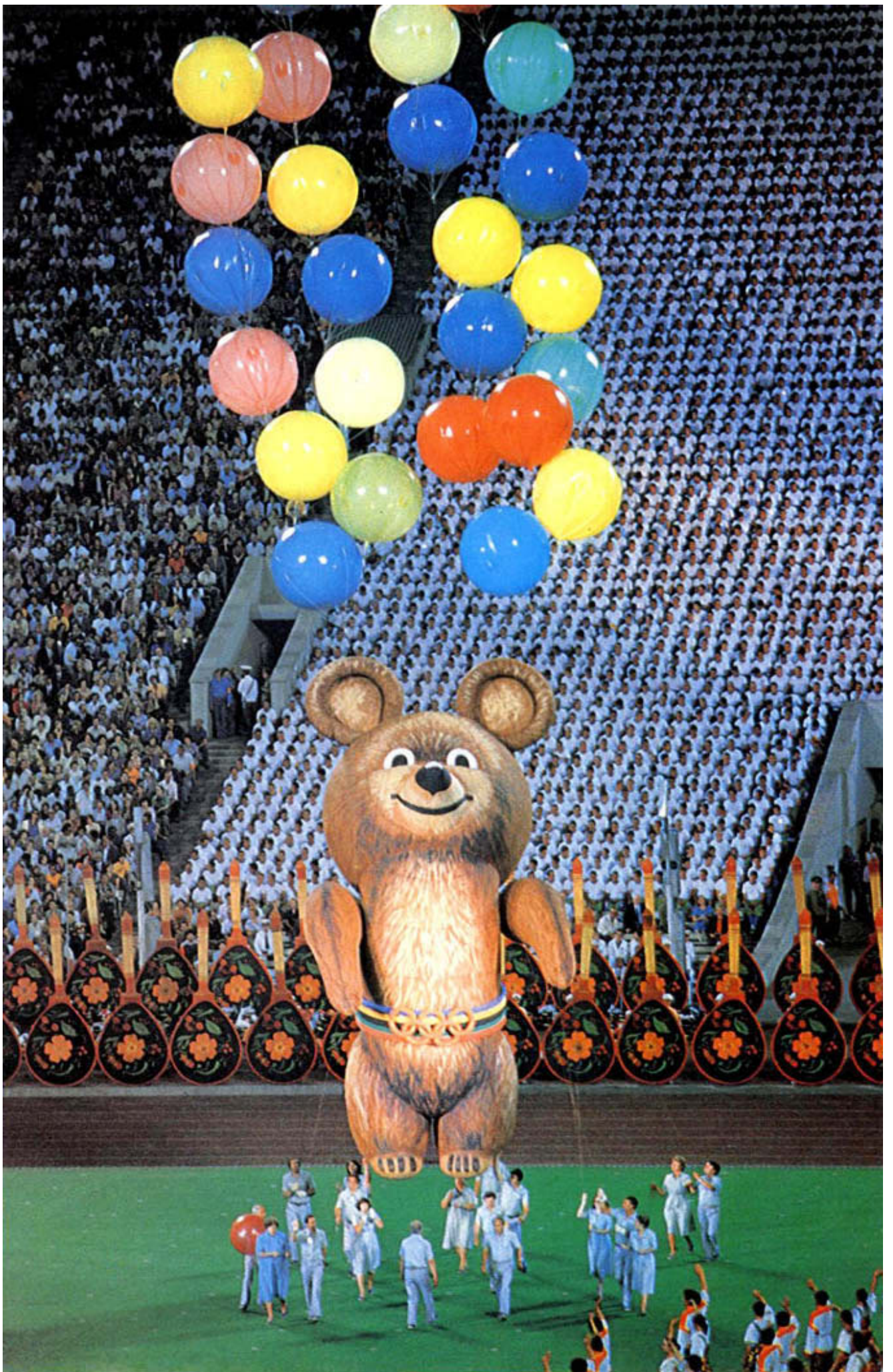
**Scenes from the artistic programme**

assemble four years from now at Los Angeles, there to celebrate with us the Games of the XXIII Olympiad."

The Olympic Flag, hoisted on the opening day of the Games, was now struck to the accompaniment of the Olympic Anthem. The "Ode to Sport" cantata rang out across the stadium.

Eight athletes carried the Olympic Flag, under which so many fine victories had been scored.

Girls in tunics gathered around the bowl with the Olympic Flame, forming a tableau vivant reminiscent of a Greek fresco. The Olympic Flame was slowly extinguished. The sparkling

clusters of a fireworks display lit up the sky above the stadium as Moscow bid farewell to the Games of the XXII Olympiad.

A huge mosaic picture of Olympic Misha appeared in the stands. He wished everybody "A happy journey".

The sadness of parting which gripped everybody was passed on to Misha. "Tears" rolled from his eyes.

A mixed brass band played a march and drilled. Girls ran out onto the field and did exercises with hoops and ribbons. In the middle of the field leading Soviet acrobats, champions of the Soviet Union, Europe

**Farewell fireworks**

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and the world, demonstrated their skill.

The performances by the participants in the Closing Ceremony were followed with rapt attention by the spectators in the stands and by millions of televiewers in many lands.

The appearance of huge Matryoshka dolls aroused merry animation in the stands. Rollicking scenes of folk festivities were enacted on the green turf.

A surprise awaited the spectators as the programme drew to an end. A gigantic Misha, holding a bunch of balloons, floated out into the middle of the arena. Waving his paw in farewell, he rose high above the stadium and disappeared from view in the sky. A poignantly lyrical atmosphere was lent to the farewell ceremony by Alexandra Pakhmutova's song "Goodbye, Moscow", to words by the poet Nikolai Dobronravov.

The mass media throughout the world gave extensive coverage to the Opening Ceremony and Closing Ceremony of the Olympic Games in Moscow.

The international news agencies supplied newspapers the world over with up-to-the-minute information on the two ceremonies. TV companies and associations in Europe, Asia, America, Africa and Australia relayed the ceremonies to more than 1,500 million people on all continents. Their reports stressed that the ceremonies had made an unforgettable impression on televiewers.

France Presse, for instance, noted that the Moscow Olympic Games had begun with an impressive ceremony in huge Lenin Stadium and had been opened in person by Leonid Brezhnev, head of the Soviet state.

The *Washington Post* reported that the Soviet Union had opened the Games with a magnificent spectacle unequalled in Olympic history.

"The grand Closing Ceremony of the Olympic Games literally overwhelmed the world by its emotional impact and grandeur," said the *Nacional* of Venezuela.

Similar comments were made by high-ranking officials of the Olympic movement and by international public personalities.

"The opening festival of the Games of the XXII Olympiad was splendid," said Virgilio de Leon of Panama, a member of the IOC Executive Board. "It was all wonderful—the music, the choreography, the decoration. We IOC members sat side by side and we exchanged impressions while the ceremony was going on. We all agreed it was a great success."