



# Annual Report of the Council 1995

*Documentation for the session of the Assembly in 1998*

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

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TO THE ASSEMBLY  
OF THE  
INTERNATIONAL CIVIL AVIATION ORGANIZATION

*I have the honour to transmit, at the direction of the Council, its Report for the year 1995 prepared in compliance with Article 54(a) of the Convention on International Civil Aviation. It constitutes documentation for the next ordinary Session of the Assembly, which will be convened in 1998, but it is being circulated to Contracting States now for their information. It will also be sent to the Economic and Social Council of the United Nations in pursuance of Article VI, paragraph 2 (a) of the Agreement between the United Nations and ICAO.*

*The Report was prepared by the Secretariat and circulated in draft form to the Representatives of Council Member States for their suggestions. The Council, as a body, did not formally examine or adopt it but, as in the past, delegated to its President authority to approve the final text after considering all the suggestions received.*

*Chapter I summarizes the principal trends and developments in civil aviation and the work of the Organization during the year; the activities of ICAO itself are described in Chapters II to X.*

*The Council held three sessions in 1995. These were the One hundred and forty-fourth Session from 3 February to 27 March, with a total of twenty meetings, one of which was held outside the Council phase; the One hundred and forty-fifth Session from 4 May to 6 July and on 11 and 12 September, with a total of twenty-eight meetings, one of which was held outside the Council phase; and the One hundred and forty-sixth Session from 26 October to 13 December, with a total of fifteen meetings, one of which was held outside the Council phase. Authority was delegated to the President to act on a number of matters, as necessary, when the Council was not in session.*



Assad Kotaite  
President of the Council

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# Chapter I

## The Year in Summary

*This chapter summarizes the principal trends and developments in civil aviation and the work of ICAO in 1995. References are made in brackets to relevant tables in Appendix 14, which provide statistics used in the diagrams broken down into further details and identify the sources and extent of coverage of these statistics.*



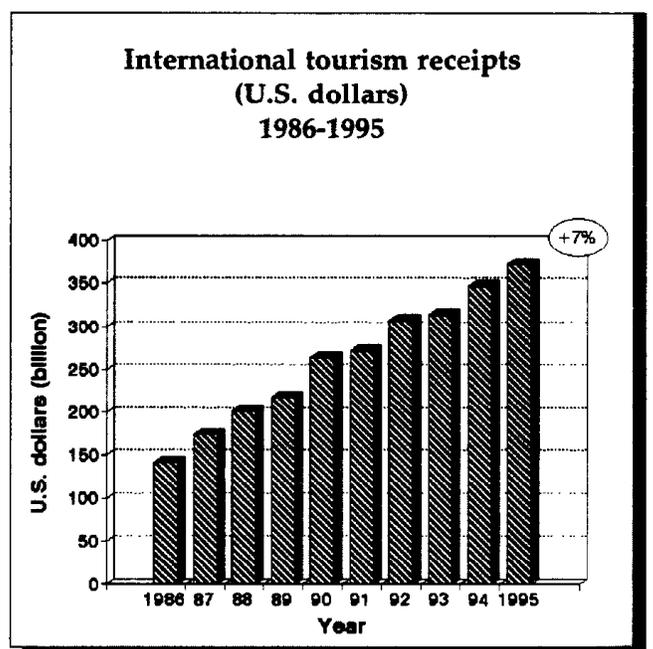
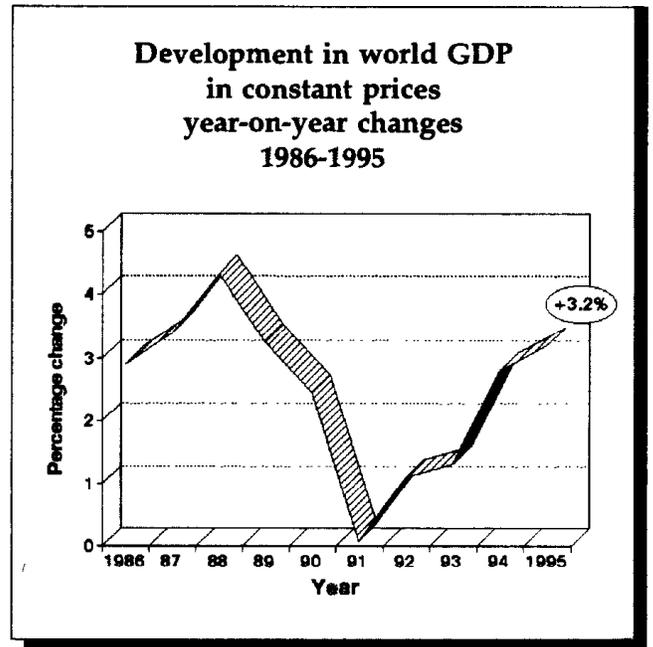
### THE WORLD ECONOMY

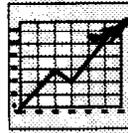
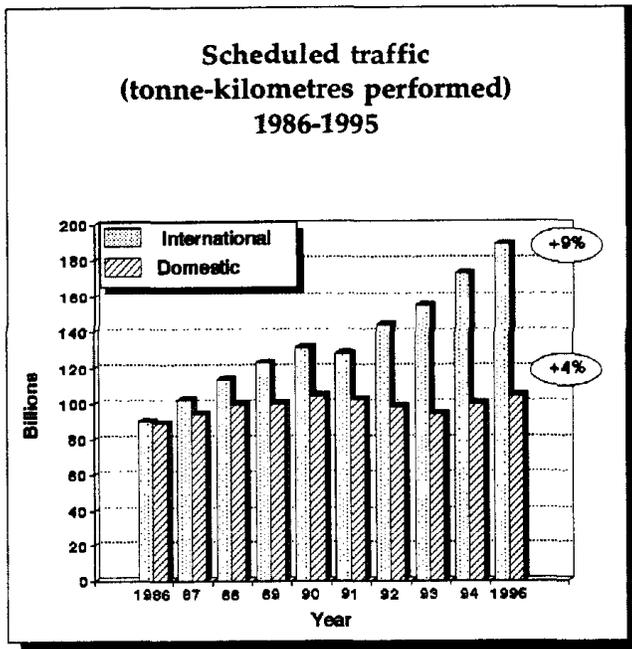
In 1995, world Gross Domestic Product (GDP) grew by approximately 3.2 per cent in real terms, following growth of 2.8 per cent in 1994. The Asia/Pacific and the Middle East regions experienced strong growth in GDP (around 4 per cent).

For the industrialized countries, GDP grew by about 2.6 per cent. Developing countries generally showed stronger growth than the industrialized countries, with those in Asia exhibiting a GDP increase of over 6 per cent. The Japanese economy recovered more slowly than expected and in 1995 experienced a growth of only 1 per cent. In 1995, for the first time since the transition process started, real GDP increased, by more than 3 per cent, for eastern Europe.

In 1995, developments in international tourism reflected the generally improved economic situation and, at a global level, tourism showed over-all gains compared with 1994 in both arrivals and receipts.

In 1995, world trade is estimated to have grown by over 7 per cent.





## TRAFFIC



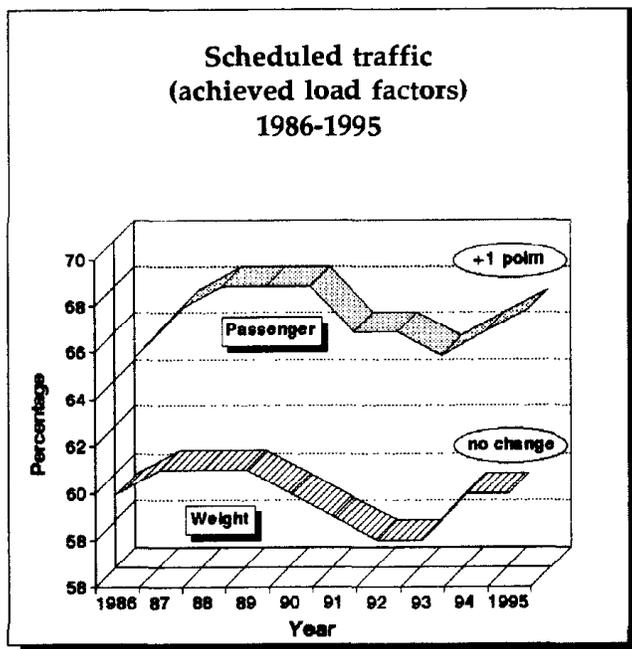
### Scheduled Operations

In 1995, the total scheduled traffic carried by the airlines of the 184 Contracting States of ICAO amounted to a total of about 1 288 million passengers and some 21 million tonnes of freight. Over-all passenger/freight/mail tonne-kilometres performed were up by 7 per cent (Table 1) and international tonne-kilometres by 9 per cent (Table 2). Domestic traffic showed an increase of about 4 per cent.

Capacity increases were kept in check for the second year in a row. The passenger load factor on total scheduled services (domestic plus international) increased by 1 percentage point, to 67 per cent whereas the aircraft load factor remained at 60 per cent (Table 3).

On a regional basis, some 36 per cent of the total traffic volume (passengers/freight/mail) was carried by North American airlines. European airlines carried about 27 per cent, Asia/Pacific airlines 26 per cent, Latin American airlines 5 per cent, Middle East airlines 4 per cent and African airlines 2 per cent (Table 4).

Data for individual countries (Tables 5 and 6) show that in 1995 approximately 42 per cent of the total volume of scheduled passenger, freight and mail traffic was accounted for by the airlines of the United States and the United Kingdom (34 and 8 per cent respectively). On international services, about 29 per cent of all traffic was carried by the airlines of the same two countries, the United States and the United Kingdom (18 and 11 per cent respectively).





*Non-scheduled  
Commercial Operations*

It is estimated that in 1995 total international non-scheduled passenger-kilometres increased by almost 6 per cent, with its share of over-all international air passenger traffic remaining in the order of 16 per cent (Table 7). Domestic non-scheduled passenger traffic represents only about 10 per cent of total non-scheduled passenger traffic and 2 per cent of total domestic passenger traffic world-wide.



*General Aviation*

General aviation flying is estimated to have decreased somewhat in 1995 from the 1994 estimate of about 39 million hours, to some 38 million hours.



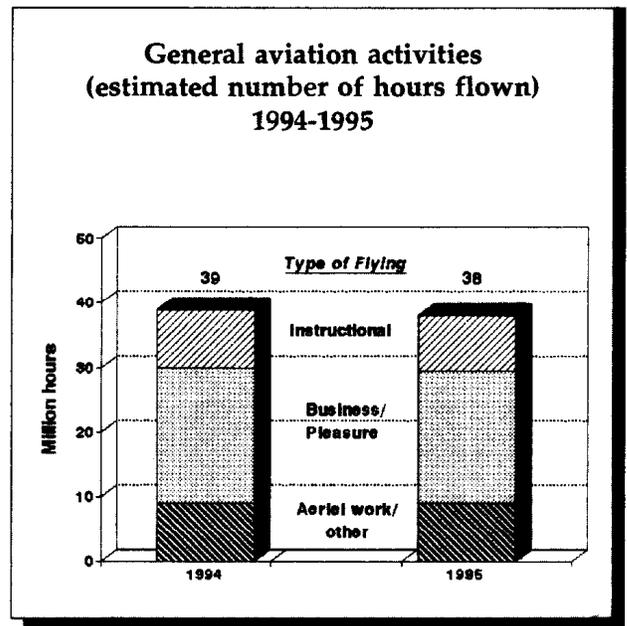
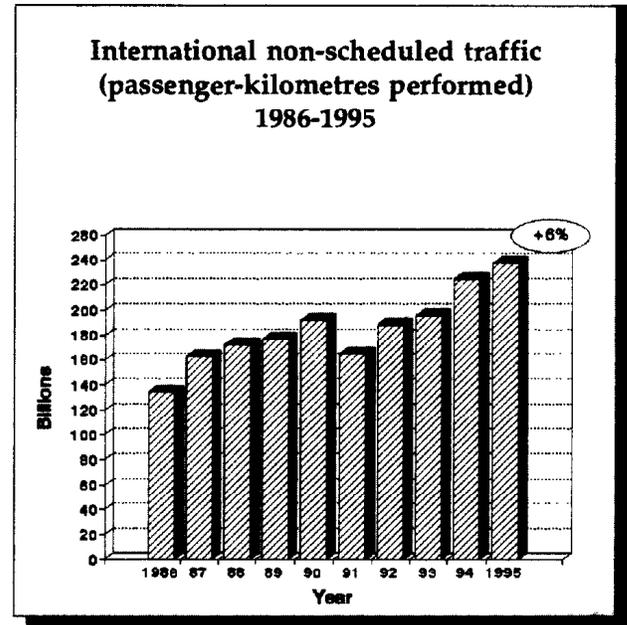
*Airport Operations*

In 1995, the 25 largest airports in the world handled some 879 million passengers, according to preliminary estimates (Table 8). During the same period the airports concerned (16 of which are located in North America, 5 in Europe and 4 in Asia) also handled some 11.0 million commercial air transport movements.

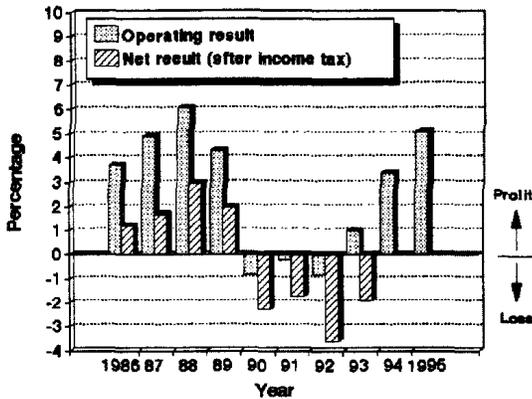


## FINANCES

Preliminary estimates for 1995 indicate that the world's scheduled airlines as a whole experienced an improved operating result for the third year in succession (Table 9).



**Scheduled airlines  
(operating and net results)  
1986-1995**



The operating revenues of scheduled airlines of ICAO Contracting States are tentatively estimated at U.S.\$274 000 million in 1995 and operating expenses for the same airlines at U.S.\$260 000 million, giving an operating profit of 5.1 per cent of operating revenues. This follows an operating profit of 3.4 per cent in 1994.

Per tonne-kilometre, operating revenues increased from 87.7 U.S. cents in 1994 to an estimated 89.8 U.S. cents in 1995, while operating expenses increased from 84.7 U.S. cents to an estimated 85.2 U.S. cents.



**COMMERCIAL DEVELOPMENTS**



*Carriers*

On the basis of schedules published in multilateral airline schedule guides it is estimated that at the end of 1995 there were some 740 air carriers world-wide providing scheduled passenger services (international and/or domestic) and about 80 operating scheduled all-freight services. Compared with the same period in 1994 this represents a net over-all increase of about 20 air carriers.

During 1995, airlines continued to expand co-operative ties, including code-sharing, joint services and joint participation in frequent flyer programmes.

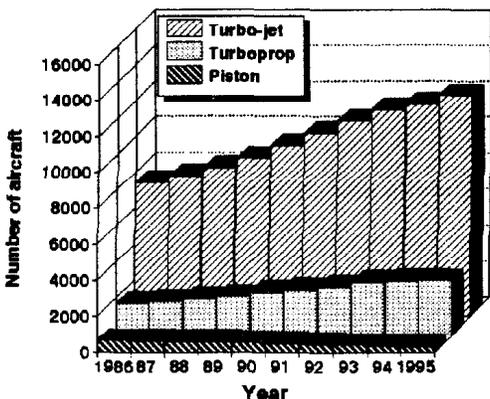


*Aircraft*

Between 1986 and 1995 the reported number of commercial air transport aircraft in service increased by about 60 per cent from 9 723 to 15 540 (excluding aircraft with a maximum take-off weight of less than 9 000 kg). Within these totals, turbo-jet aircraft numbers increased by about 66 per cent, from 7 356 to 12 200, over the same period (Table 10).

In 1995, 678 jet aircraft were ordered (compared with 314 in 1994) and 481 aircraft were delivered

**Total commercial air  
transport fleet  
1986-1995**



(compared with 513 in 1994). The backlog of unfilled orders at the end of 1995 was 2 032 aircraft compared with 1 886 at the end of 1994.

The financial commitment in terms of jet aircraft orders placed in 1995 is estimated to be about U.S.\$36 000 million compared with U.S.\$14 000 million for orders in 1994.

The number of turboprop aircraft ordered in 1995 was 168, and 191 turboprop aircraft were delivered during the year.

#### Most active aircraft type transactions 1995

Aircraft	Orders	Deliveries	Backlog
Boeing 737	176	89	491
Boeing 777	92	13	217
Airbus A 319/ 320/321	70	56	373
Douglas MD 80/90	51	32	141
BAe 146/RJs	50	21	43
Douglas MD 95	50	-	50

amendments and MOUs concluded in 1995 dealt with multiple designation, additional capacity, expanded traffic route rights or codesharing arrangements.

Among the agreements concluded in 1995 were: a new bilateral air services agreement between Canada and the United States which provided for full market access for the air carriers of both countries between their respective territories, with a phase-in of such access at 3 principal Canadian cities; individual open market agreements between 9 European States and the United States also providing for full market access and liberalized capacity and pricing regimes; separate agreements between the United States and the Czech Republic, India and the Philippines, which provided for the phasing in of more liberalized arrangements and agreements between the United States and Brazil and the United States and China which provided more opportunities to expand air services.

With respect to negotiations by groups of States, the European Commission formulated a proposal in view of negotiating as a single entity with the United States, which would yield greater benefits than negotiating separately. The Council of the European Union debated this proposal in December. The Commission also sought a mandate to negotiate, either bilaterally or multilaterally, air transport agreements with six countries of central and eastern Europe on the basis of reciprocal market access.

States in other regional groupings also sought to deal with air transport matters on a regional basis. For example, the Asia Pacific Economic Cooperation forum (APEC – which was formed in 1989 and which now has 18 members from the Asia Pacific rim), under an action programme adopted this year aimed at boosting their trade and economic development, established small working groups to study and explore, *inter alia*, ways of transport privatization, improving regional air safety, harmonizing regulation and increasing competition in regional air services. In the Caribbean area, States were negotiating a multilateral agreement concerning the operation of air services within the Caribbean Community under the auspices of the Caribbean Community and Common Market (CARICOM).

Regulatory topics addressed by the European Union included ground-handling services and a series of decisions on airline mergers, alliances and State aids. Ground-handling services will be liberalized at European Community airports on a



## ECONOMIC REGULATION

Reflecting a continuing expansion of international air services, States concluded almost twice the number of bilateral air service agreements in 1995 as in the previous year (91 agreements reported in 1995 against 47 agreements reported in 1994). About three-quarters of the bilateral agreements reported were new, first-time accords, primarily involving States in the Asia and Pacific Region; 10 agreements, almost all of which cover North Atlantic services, contained full market access provisions. In comparison with 1994, the number of reported amendments to existing agreements decreased from 18 to 12; there were 2 memoranda of understanding (MOUs) reported in 1995 compared with 4 in 1994. Most of the

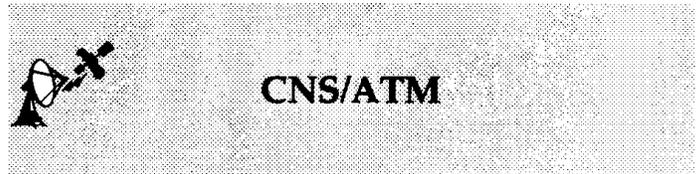
phased basis by 1 January 2003. In its decisions involving airline mergers and alliances as well as State aids, the European Commission conditioned its approval on specific actions designed to encourage competition such as the transfer of airport slots to new entrants and the successful completion of a restructuring plan.

At the national level, the Philippines announced in January a new policy to liberalize its domestic and international aviation by allowing more than one national carrier to compete on both domestic and international routes and by exchanging rights and routes with other countries on a broadened criterion of national interest which includes such considerations as promotion of international trade, foreign investment and tourism.

The practice of airline codesharing continued to attract interest, with studies released by Germany and by the United States and with work progressing on studies by the European Union and the European Civil Aviation Conference as well as ICAO itself.

During 1995, the pace of partial or full privatization of government-owned airlines continued. Preparations for privatization continued during the year for about 25 government-owned carriers, and privatization objectives were made known for another 9 carriers. The year saw significant progress in the Latin American and Caribbean Region where 5 airlines achieved their privatization aims. Elsewhere, however, several other privatizations had to be deferred or postponed because of economic conditions, the financial situation of the airlines concerned or local circumstances.

★ *Following the outcome of ICAO's World-wide Air Transport Conference, held in November/December 1994, the Council approved the single recommendation of the Conference and set in motion certain follow-up actions – including further studies on "safety net" and safeguards and ownership and control – requested by the Conference. The 31st Session of the Assembly subsequently endorsed this action.*



Major progress continued to be made in the development and implementation of communications, navigation and surveillance/air traffic management (CNS/ATM) systems as described under the individual headings below. Of note was the certification by a number of States of the Boeing FANS-1 avionics package, a major step in implementing "future air navigation systems (FANS)" routes in the South Pacific which will permit lower separation minima and consequential fuel savings for FANS-equipped aircraft on these routes.

★ *Circular 257, Economics of Satellite-based Air Navigation Services, containing practical guidance material for cost/benefit analysis for CNS/ATM, was finalized and published.*



## Communications

The aeronautical community holds the view that the aeronautical telecommunication network (ATN) will provide the data communications infrastructure required to support the future ICAO CNS/ATM systems. The impact of the ATN transition will affect virtually every existing ground network, air-ground network and end system involved in aeronautical data communications; clear, practical technical provisions and plans will therefore be necessary to ensure a smooth transition to the ATN.

Work continued in a number of States and international organizations, with industry input, on developing and assessing candidate architectures for ATN subsystems. This work was co-ordinated by the ICAO Aeronautical Telecommunication Network Panel (ATNP). Work also continued in the development and assessment of technologies, such as time-division multiple access (TDMA) digital voice/data systems to improve VHF communication spectrum utilization.

As a result of one of the recommendations of the Special COM/OPS Divisional Meeting (1995), Standards and Recommended Practices related to 8.33 kHz channel spacing in the air-ground VHF communications have been proposed for inclusion in Annex 10. This change will be introduced on the basis of a Regional Air Navigation agreement; where implemented, the number of available communication channels will approximately triple providing an immediate solution to the VHF congestion in those region(s).

At least one South Pacific State has implemented controller-pilot data link communication (CPDLC) which allows controllers to communicate, via data link, with FANS-1 equipped aircraft in oceanic airspace and also enables them to receive automatic dependent surveillance (ADS) reports. It is anticipated that other States in this region will commence application of similar procedures in the near future.



### Navigation

Significant progress continued in a number of States and international organizations in global navigation satellite systems (GNSS) development and implementation.

Development of satellite-based augmentation systems continued in a number of regions. This form of augmentation has the potential to support sole-means use of GNSS for all phases of flight down to Category I precision approach. Several architectures for ground-based augmentation systems which have the potential to support Category II/III precision approach applications continue to be developed and tested. This type of augmentation may also be used by some States to support Category I operations. A number of States have approved global positioning system (GPS) for supplemental or primary use for some operations and types of airspace. Additional global orbiting navigation satellite system (GLONASS) satellites were launched during the year and this system neared initial operational capability.

★ *The Council decided during its 146th Session to convene, at the most appropriate time, a Panel of legal and technical experts on the establishment of a legal framework with regard to GNSS.*



### Surveillance

Considerable progress continued to be reported during the year in improving surveillance capabilities. This included development of automatic dependent surveillance (ADS) and implementation of new radar systems, such as monopulse secondary surveillance radar (SSR) and SSR Mode S stations, which were implemented in the United States (23 SSR Mode S stations), in Europe (5 experimental SSR Mode S stations), in India (6 SSR Mode S stations ordered), and in Japan (1 experimental SSR Mode S station).

In other States, a two-step implementation has been preferred: upgrade/renew conventional SSR stations with the monopulse technique as a first step, and change to Mode S in a second step when the level of equipage of aircraft makes it more efficient and cost-effective. This approach has been taken, for example, in Australia, Singapore, South Africa and Europe.



### Air Traffic Management

Air traffic control systems around the world are being updated as part of the evolutionary process leading to a future global air traffic management system, which will include satellite-based automatic dependent surveillance systems to complement current radar equipment.

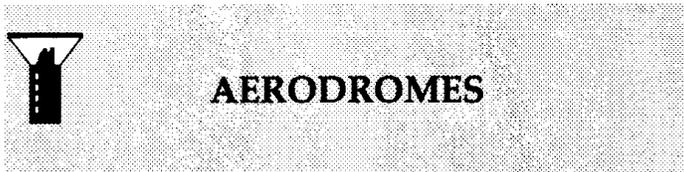
Many States developed short- and medium-term programmes and ordered equipment to update their ATC systems within the near future. Modernization of systems was achieved through introduction of multi-radar tracking systems, raster scan colour displays, new flight plan data processing systems and ATC simulators.

In areas where the implementation of radar service is not possible or practicable, it is envisaged that implementation of automatic dependent surveillance (ADS) will provide air traffic control with surveillance and intervention capability similar to that achieved through radar. Operational requirements have been developed to ensure an

orderly and co-ordinated development of ADS-based systems.

ADS is an integral part of the ICAO CNS/ATM systems concept. Considerable progress has already been achieved by ICAO, States and international organizations in the development of ADS systems. Airborne ADS capabilities, combined with data link communications and global positioning system (GPS), have been implemented in 1995 in the South Pacific Region. Air traffic control (ATC) improvements and operational procedures are being developed to support the integration of those airborne and ground ATC systems components.

The concept of required navigation performance (RNP) has been developed as another cornerstone of the ICAO CNS/ATM systems. The implementation of RNP, together with the progressive introduction of area navigation (RNAV) techniques in compliance with RNP requirements, is anticipated to support a more efficient utilization of the available airspace. It is envisaged that satellite-based navigation systems, in combination with airborne navigation systems, will meet any future navigation performance requirements, at least for en-route purposes.



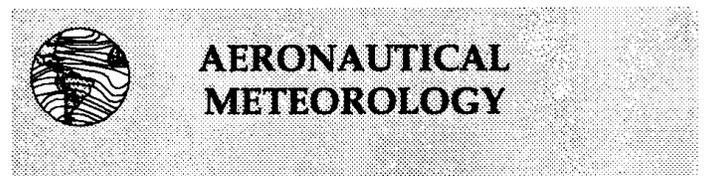
States are required to evaluate and publish the strength of airport pavements using ICAO's ACN/PCN system. The introduction of aeroplane landing gears equipped with six or more wheels per strut led to a review of the current procedures for pavement design/evaluation. The review indicated that the inherent limitations of the procedures currently used for the design of aerodrome pavements cause difficulties in establishing pavement strength requirements for some types of new larger aeroplanes equipped with six or more wheels per strut (e.g. Boeing 777). A review of the other design methods available indicated the need to identify more mature and globally acceptable procedures. Work therefore continued in 1995 in this regard.

The three major commercial aircraft manufacturers indicated their plans to develop future

larger aeroplanes with wing spans greater than 65 m (larger than the B747-400) capable of carrying 600 or more passengers; these may enter service by the year 2000 and would have an impact on the airport infrastructure. To assist States in planning for these aeroplanes, a review of the Annex 14, Volume I specifications on airport design is necessary, with a view to updating them as appropriate. This work is in progress.

Annex 14, Volume I recommends halogenated carbons (halons) as one of the three complementary fire extinguishing agents for aerodrome rescue and fire fighting. However, as a result of the *Montreal Protocol on Substances that Deplete the Ozone Layer*, the production of halons ceased on 31 December 1993. Since then, only remaining stocks of halons and recycled halons have been used until a suitable alternative is identified. In this regard, industry has undertaken considerable research which ICAO has been monitoring in order to keep the related specifications current.

Work was completed in one State on simplifying the lighting systems currently specified in Annex 14, Volume I for precision approach runways so as to substantially reduce their installation and operating costs. Simulator evaluations and flight trials in reduced visibility conditions have shown that a significant reduction in the number of lights is feasible and would not compromise safety because modern instrument landing systems deliver the aircraft more accurately. The results of this work will be considered for possible amendment of Annex 14, Volume I.



Many States continued to install automated weather observing systems to support human observers. In this respect, a number of States introduced visibility and runway visual range (RVR) assessments using scatter meters.

A tendency towards the centralization and commercialization of meteorological forecast services continued in 1995, and in a number of States the meteorological services were commercialized to varying degrees.

Developments continued towards computer preparation of global forecasts of significant weather by the world area forecast centres (WAFCs). As a result, the significant weather (SIGWX) charts for Europe, Middle East and the North Atlantic are currently prepared in WAFc London by means of an interactive computer workstation. The capability to prepare such SIGWX charts with a global coverage is expected to be achieved in this centre by the end of 1996. In parallel, research in WAFcs is aimed at selecting a suitable existing meteorological code which could be used for more effective dissemination of the global SIGWX charts and which would also allow for automated manipulation of SIGWX information on the charts by users. In preparing their aviation forecasts, both the London and Washington WAFcs benefit from the increasing number of air-reports sent automatically through air/ground data link. In addition, meteorological authorities are also increasingly benefiting from this information received as basic meteorological data. During 1995 two world area forecast system (WAFS) satellite broadcasts to cover the Caribbean, North American and South American Regions and the African, Asian (western part), European and Middle East Regions were implemented. The third broadcast covering the Pacific and Asian (eastern part) Regions will be implemented early in 1996, to complete the global coverage by WAFS satellite broadcasts.

Available data link communications have been increasingly used to provide operational meteorological (OPMET) information to aircraft in flight.

The installation of terminal Doppler weather radar at key aerodromes in the United States continued during the year. Doppler radar's remote-sensing capability and highly sophisticated signal processing techniques permit it to detect wind shear, including microbursts, in the terminal area. Work continued on the development of an "add-on" wind shear processing capability for the Doppler radars used by air traffic control or airport surveillance. A forward-looking airborne wind shear warning system based on Doppler radar technology, certificated in the United States, was installed in aircraft by more than 30 airlines world-wide.

The volcanic ash forecast transport and deposition computer models were applied to the tracking of ash clouds from volcanic eruptions by the designated volcanic ash advisory centres. The forecast products are intended for use by pilots, operators and air traffic controllers showing relative

ash concentrations through different layers of the atmosphere. The possibility of disseminating this advisory information in graphical format to meteorological watch offices (MWOs) and area control centres (ACCs) is being studied.

★ *Preparations continued in certain States towards the full world-wide implementation of the new aeronautical meteorological codes (METAR, SPECI, and TAF).*

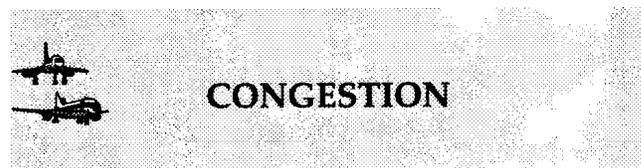


## SEARCH AND RESCUE

The satellite-based COSPAS-SARSAT<sup>1</sup> system continued to play an important role in detecting emergency locator transmitters (ELTs) and in locating aviation distress sites.

The system also continued to expand its capability. There were 6 satellites in operation and several replacement satellites incorporating technical enhancements were being built. The ground system of local user terminals (LUTs) and mission control centres (MCCs) was improved and expanded. At year's end, 33 LUTs and 17 MCCs were in operation or under test. Although global coverage was already provided on 406 MHz, additional LUTs and MCCs were planned to increase the real-time coverage of the system and reduce over-all response time. A geostationary component of the system was being developed which would provide for almost instantaneous alert.

Since it began trial operations in September 1982, the COSPAS-SARSAT system has contributed to the rescue of over 5 500 persons in aeronautical, maritime and terrestrial incidents.

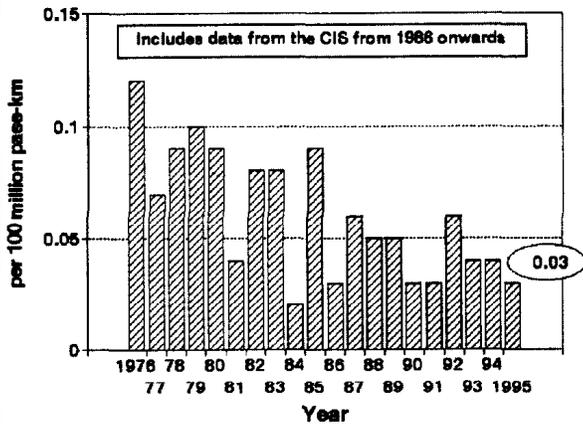


## CONGESTION

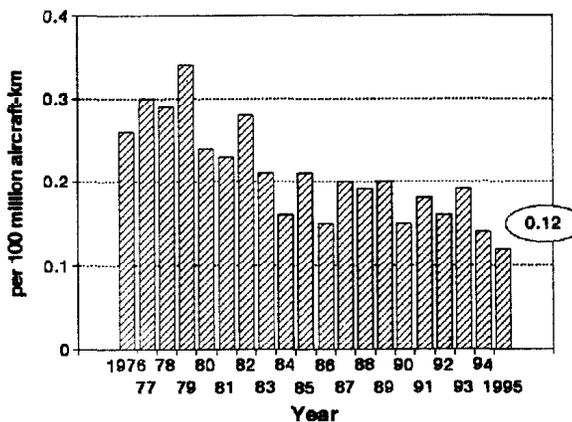
★ *The Eleventh Session of the Facilitation Division, held in April, recognized the progress which had been made in*

1. COSPAS – space system for search of vessels in distress;  
SARSAT – search and rescue satellite-aided tracking.

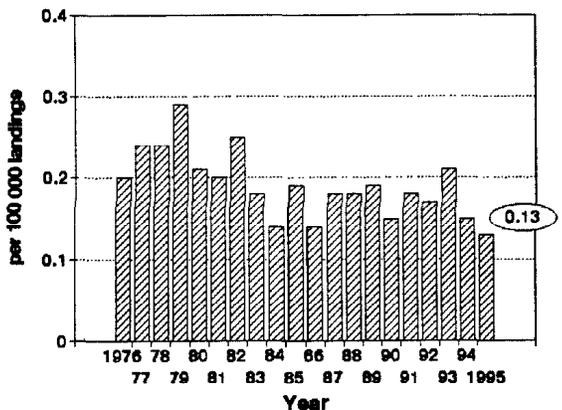
**Number of passengers killed per 100 million passenger-kilometres on scheduled services**



**Number of fatal accidents per 100 million aircraft-kilometres flown on scheduled services**



**Number of fatal accidents per 100 000 landings by aircraft on scheduled services**



using automation to solve problems of passenger and cargo congestion at airports. Advance passenger information systems, electronic cargo manifests, new time-limit goals for inbound and outbound formalities and guidelines for processing express consignments and low-value shipments were included in recommended changes to Annex 9.

★ A new edition of Part 2 of Doc 9303, Machine Readable Travel Documents, including specifications for an alternative, smaller size, machine readable visa, was published.



**SAFETY**



*Scheduled Operations*

Preliminary information on aircraft accidents involving passenger fatalities in scheduled air services for ICAO Contracting States shows that there were 26 fatal aircraft accidents in 1995 involving 710 passenger fatalities compared to 28 fatal accidents and 941 passenger fatalities in 1994 (Table 11). Relating passenger fatalities to the volume of traffic, the number of passenger fatalities per 100 million passenger-kilometres declined from 0.045 to 0.03 in 1995. Excluding the Commonwealth of Independent States (CIS, for which the relevant data were not available), the number of fatal aircraft accidents per 100 million aircraft-kilometres flown decreased to 0.12 in 1995 from 0.14 in 1994, and the number of fatal aircraft accidents per 100 000 landings also decreased, to 0.13 in 1995 from the previous rate of 0.15 in 1994.

The safety levels are significantly different for the various types of aircraft operated on scheduled passenger services. For instance, in turbo-jet aircraft operations, which account for about 95 per cent of the total volume of scheduled traffic (i.e. in terms of passenger-kilometres performed), there were 11 accidents in 1995 with 541 passenger fatalities; in turboprop and piston-engined aircraft operations,

*Note.* – Unless otherwise stated the adjacent charts exclude data from the Commonwealth of Independent States (CIS) because some of the data were not available.

which account for about 5 per cent of the scheduled traffic volume, there were 17 accidents with 169 passenger fatalities. The fatality rate for turbo-jet aircraft operations was, therefore, far lower than for propeller-driven aircraft.



### *Non-scheduled Commercial Operations*

Non-scheduled commercial operations include both the non-scheduled flights of scheduled airlines and all air transport flights of non-scheduled commercial operators. Data available to ICAO on the safety of non-scheduled passenger operations show that in 1995 there were 40 fatal accidents with 391 passenger fatalities compared to 54 fatal accidents with 251 passenger fatalities in 1994.

In non-scheduled operations performed with aircraft of more than 9 000 kg take-off mass, whether by scheduled airlines or non-scheduled operators, there were 13 fatal accidents with 271 passenger fatalities in 1995.



### *General Aviation*

Complete statistical information is not available on safety in general aviation operations. In 1994, it is estimated that general aviation aircraft were involved in about 770 fatal accidents and that the number of fatalities in these accidents was about 1 660. The number of fatal accidents per 100 000 aircraft hours flown was about 1.97 in 1994. In the United States, which accounts for about 60 per cent of all reported general aviation activities in the world there were 408 fatal accidents in 1995 resulting in 725 fatalities, according to preliminary information. The corresponding numbers for 1994 were 402 fatal accidents and 716 fatalities. For the United States, the rate of fatal general aviation accidents per 100 000 aircraft hours flown was about 2.04 in 1995, compared to 1.83 in 1994.



### *Safety Oversight*

At the 31st Session of the Assembly, States recognized the eminent role of ICAO in guiding States with regard to safety oversight and endorsed the safety oversight programme and the mechanism for financial and technical contributions to the

programme. The Assembly also called on Contracting States to urgently ratify Article 83 *bis* of the Chicago Convention.

By the end of 1995, 24 States had requested a safety oversight assessment by an ICAO team, 9 States had offered funds or assistance-in-kind to finance the safety oversight programme and 12 States had offered experts to the programme through secondment.

It is expected that the first safety oversight assessment mission will be conducted and completed prior to the end of March 1996.

It is planned to report to Council in 1996 on the progress of the implementation of the ICAO safety oversight programme.



### *Accident Investigation and Prevention*

To meet the challenge to flight safety posed by the expected increase in air traffic and recognizing that many Contracting States may be unable to fulfil their obligations to provide adequate safety oversight of their commercial air transport, Contracting States were urged to make every effort to enhance accident prevention measures. At the 31st Session of the ICAO Assembly, Resolution A31-10 – Improving Accident Prevention in Civil Aviation – identified specific areas requiring special attention: personnel training, information feedback and analysis, and implementation of voluntary and non-punitive reporting systems.

The resolution also urged Contracting States to co-operate with ICAO and with other States in the development and implementation of accident prevention measures designed to integrate skills and resources to achieve a consistently high level of safety throughout civil aviation.



### *Controlled Flight into Terrain (CFIT)*

★ ICAO has adopted expanded requirements for the carriage of the ground proximity warning system (GPWS) applicable from 1 January 1999. The 31st Session of the Assembly adopted a resolution which urged States to implement the ICAO programme for the prevention of

CFIT, including the related ICAO provisions, in international and in domestic operations. In March, the Air Navigation Commission took action on the initial recommendations of the ICAO and Industry CFIT Task Force. The multi-disciplinary team of the Air Navigation Bureau and the CFIT Task Force has continued its work throughout the year. The CFIT Task Force gave its third report in Seattle, Washington, in November; it is expected that the completed work of the task force will be presented to the Commission, as a part of the ICAO programme for the prevention of CFIT, in September 1996.



## HUMAN FACTORS

A regional seminar/workshop attended by 92 participants from 17 Contracting States, 2 international organizations and 18 airlines was held in Hong Kong.

The drive to incorporate Human Factors requirements into the certification process of equipment, procedures and personnel continued to gain momentum during 1995. ICAO has been involved in several fora where the subject was discussed. An industry consensus concerning practical implementation of these requirements could be achieved during 1996.

An initial review of the Annexes to the Convention to determine the feasibility of developing Human Factors-related SARPs was completed during 1995. The review confirmed the feasibility of developing such SARPs, a task which will be undertaken during 1996.

★ Several Human Factors-related international symposia, seminars and meetings were held in various Contracting States. ICAO was represented at most of them, affirming its leadership role in this field.

★ One Human Factors Digest was published during 1995, while the ICAO Human Factors Training Manual was developed for publication in 1996.



## TRAINING

TRAINAIR activities continued to expand as membership in the programme grew to 16 civil aviation training centres in 13 States. An additional State signed a Trust Fund Agreement with ICAO during 1995 and should begin participation in the programme during 1996. For the first time, TRAINAIR Course Developers Workshops were conducted by local personnel from training centres with minimum support from the Central Unit. The sixth TRAINAIR Co-ordination Conference, hosted by the Republic of Indonesia (Directorate General of Air Communication and the Education and Training Agency), included a two-day programme that addressed issues associated with the use of advanced training technologies for new aviation systems.

During the Co-ordination Conference, TRAINAIR members expressed a strong interest in involving additional developed States in the programme. Changes were made to the TRAINAIR Network Rules, and issues were addressed that will make TRAINAIR membership potentially more attractive to aviation training centres in developed States.



## WARSAW SYSTEM

In October, the Annual General Meeting of IATA endorsed an intercarrier agreement regarding the limits of liability and recommended to its member airlines to adhere to this agreement subject to the approval of the States concerned.

★ A socio-economic analysis of the limits of air carrier liability was carried out during the year by ICAO, in co-ordination with the International Air Transport Association (IATA), as part of a comprehensive effort by the Council to accelerate the modernization of the "Warsaw System" of liability.

★ During its 146th Session, the Council agreed to the establishment of a Secretariat Study Group to assist the Legal Bureau in developing a mechanism within the framework of ICAO to accelerate the process. The Legal Bureau was requested to take into account the results of the socio-economic analysis and to present its report to the Council during the 147th Session.

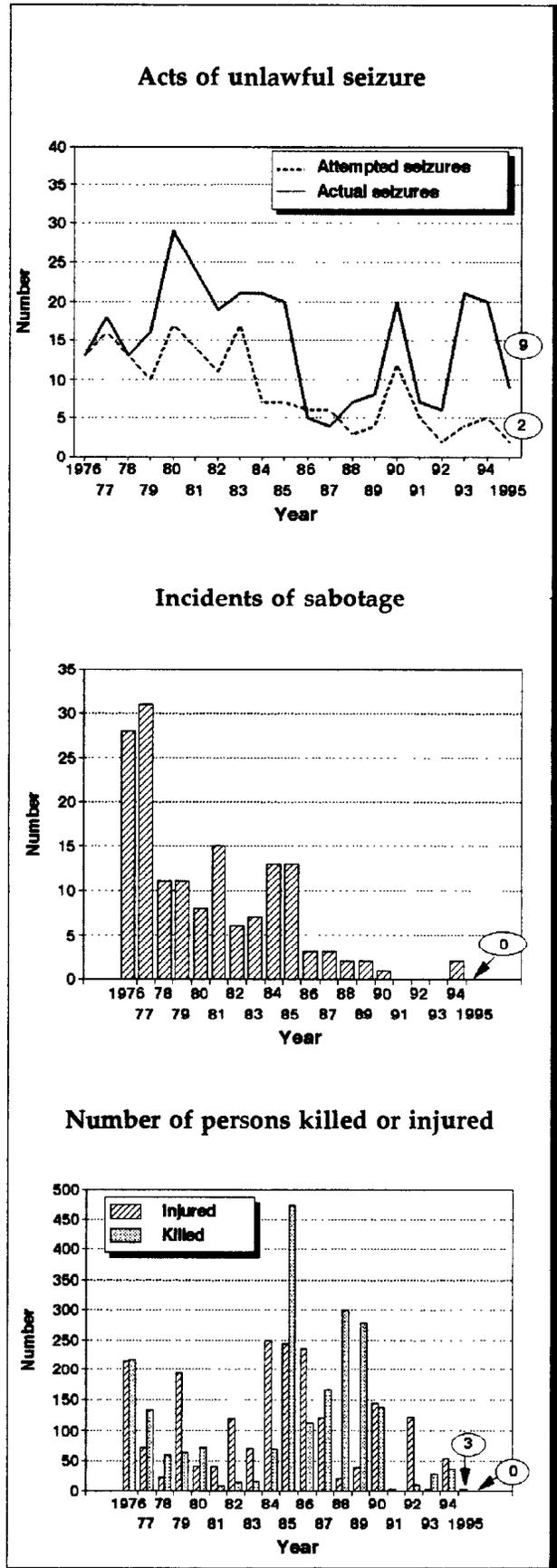


## SECURITY

The number of acts of unlawful interference for 1995 has significantly decreased compared to 1994 (Table 12). In 1995, there were 14 such incidents officially reported, of which nine were unlawful seizures, two were attempted seizures, two were attacks on a ground facility and one was an unlawful act against the safety of civil aviation. These acts have been included in the annual statistics to assist in the analysis of trends and developments.

★ The 31st Session of the Assembly endorsed the Council's decision to extend the Mechanism for financial, technical and material assistance to States with regard to aviation security until the end of 1998. Since the commencement of Mechanism activities in 1989, 115 States have requested assistance; of these 82 received technical evaluation missions and 25 States were visited during follow-up missions. These activities were financed through voluntary contributions by 15 donor States totalling U.S.\$3,183,757 and the funding of 7 posts by 3 donor States.

★ Standardized Training Packages (STPs) 123/MANAGEMENT and 123/INSTRUCTORS, two of a further six STPs, have been validated and the audio-visual aids components of both STPs are being developed. Distribution after translation into five languages of the Organization is anticipated for early 1996.





## ENVIRONMENTAL PROTECTION

In order to raise funds for the implementation of "Agenda 21", the action plan for all major areas affecting the relationship between the environment and development that was adopted in 1992 in Rio de Janeiro by the UN Conference on Environment and Development (UNCED), the Commission on Sustainable Development continued to examine innovative financing mechanisms, including a possible environmental user charge on air transport.

In April, Parties to the United Nations Framework Convention on Climate Change, which has the objective of stabilizing greenhouse gas concentrations in the atmosphere at safe levels, launched a new process (the "Berlin Mandate") with a 1997 deadline for strengthening developed country commitments. While the Convention has no specific provisions regarding civil aviation, some States would like to see measures to control aircraft engine emissions that contribute to climate change.

In December, the Intergovernmental Panel on Climate Change finalized its Second Assessment Report (SAR). In relation to aircraft engine emissions, the SAR underlined the continuing uncertainties regarding the impact of oxides of nitrogen (NO<sub>x</sub>), water vapour and sulphur and the consequent need for further research.

★ *The 31st Session of the Assembly adopted a consolidated statement of continuing ICAO policies and practices related to environmental protection. This statement brings together all the existing ICAO resolutions dealing with environmental protection and, inter alia, reiterates the need for the Council to maintain the initiative in developing policy guidance on aviation matters related to the environment, and not leave such initiatives to other organizations.*

★ *In December, ICAO's Committee on Aviation Environmental Protection (CAEP) met. Concerning aircraft engine emissions, CAEP's main recommendation was that the NO<sub>x</sub> emission standards for new engines in Annex 16, Volume II should be made more stringent. CAEP also endorsed an initiative aimed at increasing co-operation between ICAO and those UN bodies responsible for preparing scientific assessment reports on climate change and on depletion of the ozone layer.*

★ *In relation to noise, CAEP considered the timeliness of increasing the stringency of noise standards for new aircraft after the phasing out of Chapter 2 aircraft (subsonic jet aircraft that meet the noise certification levels in Annex 16, Volume I, Chapter 2, but not those in Chapter 3). The Committee was not able to reach a consensus on this subject. It recommended to the Council amendments to the procedures defined in the PANS-OPS, Doc 8168 for take-off noise abatement and steps to promote more land-use planning around airports.*



## SMOKING RESTRICTIONS

★ *A study presented to the 31st Session of the Assembly suggested that instituting a smoke-free environment did not constitute a flight safety hazard provided adequate security measures were in place to deal with surreptitious smoking. The Assembly noted that Resolution A29-15, adopted in 1992 during the 29th Session of the Assembly, which urged all Contracting States to take necessary measures as soon as possible to restrict smoking on all international flights with the objective of implementing complete smoking bans by 1 July 1996, was being progressively implemented. The Assembly requested the ICAO Secretariat to consider the possibility of studying the development of separate smoking cabins with separate ventilation systems for aircraft.*



## SUBSTANCE ABUSE

★ *The 31st Session of the Assembly noted that, in response to Resolution A29-16 on the role of ICAO in the prevention of substance abuse in the workplace which urges the Council to expedite the development and publication of guidance material containing measures which may be implemented by Contracting States to maintain civil aviation workplaces free from the threat of substance abuse, the Secretariat, with the assistance of an international study group comprising of medical experts from several Contracting States and international organi-*

zations, developed the Manual on Prevention of Problematic Use of Substances in the Aviation Workplace (Doc 9654) which was distributed to States in September.



## TECHNICAL CO-OPERATION

★ The ICAO Technical Co-operation Programme for 1995 was valued at U.S.\$ 67 million, of which U.S.\$ 55.8 million (or 83 per cent) was implemented.

★ During the year, the Technical Co-operation Bureau executed 134 projects in 67 developing countries and a total of 12 new and revised large-scale projects were initiated. The TCB employed 354 experts from 41 countries to work in its field projects. A total of 514 fellowships were awarded and procurement expenditures for field projects totalled U.S.\$24.82 million.

★ Registration for the ICAO Civil Aviation Purchasing Service (CAPS) was made by 4 additional countries, bringing the total to 77.

★ The 31st Session of the Assembly approved a new policy on technical co-operation which will include new objectives as well as the establishment of a funding mechanism. The new objectives aim at:

- emphasizing the global implementation of SARPs and ANPs;
- continuing to focus on development-oriented technical co-operation;
- assisting developing countries in familiarization with training in, and global implementation of, CNS/ATM;
- complementing the assessment role of the Regular Programme by identifying deficiencies

under the ICAO Safety Oversight Programme and by working with developing countries on rectifying those deficiencies as necessary;

- insisting, as a matter of priority, upon the development of master plans for civil aviation in developing countries, with the participation of national staff in the preparation and implementation of such plans; and
- ensuring that technical co-operation projects fall in line with States' pragmatic needs in a manner aimed at maximizing the impact and leverage of assigned resources with a view to achieving the highest possible cost-effective delivery of the Programme.

★ In addition, the Assembly encouraged Contracting States to make use of the Technical Co-operation Programme and to contribute to the new funding mechanism.

★ The progressive economic development of the South American Region continued to put increasing demand on the civil aviation facilities of countries in the region. This created a growing requirement for the enhancement and expansion of these facilities; the Technical Co-operation Bureau was able to respond effectively by providing co-operative services in the aeronautical sector related to high technology and complex systems.

★ For the first time in its history, ICAO established an institutional body in the form of a Civil Aviation Caretaker Authority (CACAS) for Somalia which operated from Nairobi, Kenya. Upon the cessation of United Nations Operations in Somalia (UNOSOM) and after consultation between the United Nations and ICAO, the UN Secretary-General and the Security Council agreed that ICAO act in civil aviation matters with regard to Somalia with a view to avoiding any disruption of activities and ensuring safe and reliable international civil aviation operations. All international staff and equipment were relocated to Nairobi (Gigiri) and a temporary operational station, including a flight information centre, was established. Limited airfield services are being provided by national staff working in an ICAO project.

## THE ORGANIZATION

★ During 1995, the Convention on International Civil Aviation was adhered to by 1 additional State (Palau) and at year end there were 184 Contracting States.

★ The 31st Session of the Assembly was attended by participants from 151 Contracting States as well as 27 observer delegations; it addressed the 1996-1997-1998 budget and work programme and a wide range of subjects, including measures to increase the effectiveness of ICAO.

★ In March/April, 340 participants from 79 Contracting States and 15 international organizations attended a two-week Special Communications/Operations Divisional Meeting and recommended, inter alia, a global strategy for the introduction and application of non-visual aids to approach and landing operations, to be implemented over the next 20 years. The strategy replaces the ICAO instrument landing system (ILS)/microwave landing system (MLS) transition plan which was introduced in Annex 10 in 1987.

★ In April, 408 participants from 89 Contracting States and 10 international organizations attended the Eleventh Session of the Facilitation Division, which recommended over 100 new or amended standards and recommended practices to facilitate the clearance of international cargo and passengers at airports, including goals of 60 minutes for departure clearance of passengers at international airports (to complement the existing goal of 45 minutes for arriving passengers) and of four hours for clearance of arriving cargo shipments after submission of proper documentation.

★ In the light of the elimination of apartheid in South Africa, the Assembly declared no longer in force all previous Assembly Resolutions restricting the participation of South Africa in ICAO activities.

★ A Diplomatic Conference convened in Montreal adopted on 29 September 1995 the Protocol on the Authentic Quinquelingual Text of the Convention on International Civil Aviation (Chicago, 1944), setting forth the authentic text of the Convention in the Arabic language. In parallel, the 31st Session of the ICAO Assembly adopted the Protocol on the Authentic Quinquelingual Text of the Convention on International Civil Aviation (Chicago, 1944), providing for the authentic text of the Convention in the Arabic language.

★ In November, the Council unanimously elected Dr. Assad Kotaite (Lebanon) as its President for an eighth three-year term.

★ For a large part of 1995, the Organization continued to experience cash flow difficulties (resulting from delays in payments of 1995 contributions and accumulated arrears), which had an adverse effect on the ICAO work programme.