

Doc 9161



Manual on Air Navigation Services Economics

Approved by the Secretary General
and published under his authority

Fifth Edition — 2013

International Civil Aviation Organization

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AMENDMENTS

Amendments are announced in the supplements to the *Catalogue of ICAO Publications*; the Catalogue and its supplements are available on the ICAO website at www.icao.int. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

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FOREWORD

ORIGIN AND OBJECTIVE

1. In May 2009, the ICAO Air Transport Committee decided that the *Manual on Air Navigation Services Economics* (Doc 9161) should be revised and updated as a follow-up to the Conference on the Economics of Airports and Air Navigation Services (CEANS 2008).
2. The objective of this manual is to provide practical guidance to States, air navigation services providers, and designated charging and regulatory authorities to assist in the efficient management of air navigation services and in implementing ICAO's *Policies on Charges for Airports and Air Navigation Services* (Doc 9082).

SCOPE

3. This guidance takes into account the wide range of different circumstances faced by air navigation services providers. It is based on international policies and principles on air navigation services cost-recovery that States have developed through ICAO and describes procedures and practices that are in conformity with these policies and principles. The basis for these policies and principles is set out in Article 15 of the *Convention on International Civil Aviation* (Doc 7100), the charter of ICAO. Extensive policy guidance in this area was subsequently developed by the ICAO Council and is contained in Doc 9082.
4. The guidance material in this manual is presented in six chapters and five associated appendices, including a glossary of terms and abbreviations as used in this manual, and an index. Chapter 1 addresses ICAO's policies on air navigation services charges and States' responsibilities; Chapter 2 focuses on air navigation services ownership, control and governance issues; Chapter 3 deals with international cooperation in the provision of air navigation services; Chapter 4 provides guidance on economic and financial management, including economic performance management; Chapter 5 provides guidance on determining the cost basis for air navigation services charges and on the setting of individual air traffic charges and their collection; and Chapter 6 addresses financing of air navigation services infrastructure.
5. Special care has been taken, throughout this manual, to ensure consistency and harmonization with the companion document — *Airport Economics Manual* (Doc 9562).

SOURCES

6. In the development of the present fifth edition of the manual, the Secretariat has been assisted by a panel of experts on air navigation services economics — the Air Navigation Services Economics Panel (ANSEP). The principal sources were the fourth edition of the manual, ICAO's *Policies on Charges for Airports and Air Navigation Services* (Doc 9082), the *Report of the Conference on the Economics of Airports and Air Navigation Services (CEANS)* (Doc 9908) and the *Airport Economics Manual* (Doc 9562). Additional ICAO source documents included Annexes to the *Convention on International Civil Aviation* (Doc 7300), manuals, reports, circulars and studies, as well as individual consultations by the Secretariat.

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GLOSSARY

ACRONYMS

ACC	Area control centre
ADS	Automatic dependent surveillance
ADS-B	Automatic dependent surveillance-broadcast
ADS-C	Automatic dependent surveillance-contract
AFS	Aeronautical fixed service
AFTN	Aeronautical fixed telecommunication network
AIM	Aeronautical information management
AIP	Aeronautical information publication
AIRMET	Information concerning en-route weather phenomena which may affect the safety of low-level aircraft operations
AIS	Aeronautical information services
AMS	Aeronautical mobile service
AMSS	Aeronautical mobile satellite service
ANP	Air navigation plan
ANSP	Air navigation services provider
ASECNA	Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar
ASM	Airspace management
ATC	Air traffic control
ATCO	Air traffic controller
ATFM	Air traffic flow management
ATK	Available tonne-kilometre
ATM	Air traffic management
ATN	Aeronautical telecommunication network
ATS	Air traffic services
CAPM	Capital assets pricing model
CBA	Cost-benefit analysis
CFIT	Controlled flight into terrain
CNS	Communications, navigation and surveillance
COCESNA	Corporación Centroamericana de Servicios de Navegación Aérea
COM	Aeronautical telecommunication service
DME	Distance measuring equipment
D-VOLMET	Digital meteorological information for aircraft in flight
EUROCONTROL	European Organisation for the Safety of Air Navigation
FASID	Facilities and services implementation document
FIC	Flight information centre
FIR	Flight information region
GANP	Global air navigation plan
GES	Ground earth station
GLONASS	Global navigation satellite system (Russian Federation)
GNSS	Global navigation satellite system (United States)
GPS	Global positioning system
HF	High frequency
IAS	International accounting standards
IFR	Instrument flight rules

IKSANO	International Organization Information Coordinating Council on Air Navigation Charges
ILS	Instrument landing system
IPO	Initial public offering
KPA	Key performance area
KPI	Key performance indicator
LAQ	Local air quality
MET	Meteorological services for air navigation
METAR	Aerodrome routine meteorological report
Mode S	Mode select
NDB	Non-directional radio beacon
NOTAM	Notice to airmen
NPV	Net present value
OECD	Organisation for Economic Co-operation and Development
OPMET	Operational meteorological information
OPS	Operations
PBA	Performance-based approach
PBN	Performance-based navigation
PIRG	Planning and implementation regional group
RMA	Regional monitoring agency
RNAV	Area navigation
RSOO	Regional safety oversight organization
RVSM	Reduced vertical separation minimum
SADIS	Satellite distribution system for information relating to air navigation
SAR	Search and rescue
SARPS	Standards and recommended practices
SES	Single European Sky
SESAR	Single European Air Traffic Management Research
SIGMET	Information concerning en-route weather phenomena which may affect the safety of aircraft operations
SLA	Service level agreement
SPECI	Aerodrome special meteorological report
TAF	Aerodrome forecast
TC	Tropical cyclone
TMA	Terminal control area
TWR	Aerodrome control tower or aerodrome control
UIR	Upper flight information region
VA	Volcanic ash
VFR	Visual flight rules
VHF	Very high frequency
VOLMET	Meteorological information for aircraft in flight
VOR	VHF omnidirectional radio range
VSAT	Very small aperture terminal
WAAC	Weighted average cost of capital
WAFS	World area forecast system

TERMS

Note.— The following terms are described as they apply in the context of this manual. This list is not exhaustive. Other terms, for which a definition is provided in the body of the manual, may be found in the Index.

Aerodrome control service. Air traffic control service for aerodrome traffic.

Air navigation services. This term includes air traffic management (ATM), communications, navigation and surveillance systems (CNS), meteorological services for air navigation (MET), search and rescue (SAR) and aeronautical information services/aeronautical information management (AIS/AIM). These services are provided to air traffic during all phases of operations (approach, aerodrome and en route).

Air navigation services provider (ANSP). Any entity providing ATM and/or other air navigation services mentioned above.

Airport phase of operations. Any or all phases of aircraft operations involving approach, landing, take-off and/or departure.

Air traffic control (ATC) service. A service provided for the purpose of: a) preventing collisions (between aircraft and on the manoeuvring area between aircraft and obstructions); and b) expediting and maintaining an orderly flow of air traffic.

Air traffic management (ATM). The aggregation of the airborne functions and ground-based functions (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations.

Air traffic service (ATS). A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

Alerting service. A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

Amortization. The gradual extinguishment of the cost of an asset by periodic (annual) charges to expenses, usually applicable to intangible assets (e.g. development costs).

Approach control service. Air traffic control service for arriving or departing controlled flights.

Area control service. Air traffic control service for controlled flights in control areas (en route).

Asset. A resource from which future economic benefits are expected to flow to the entity that owns or controls it.

Autonomous entity. An independent entity established for the purpose of operating and managing one or more airports and/or air navigation services, which is empowered to manage and use the revenues it generates to cover its costs.

Benchmarking. The process of either making comparisons over time within a single organization (internal benchmarking) or of comparing the performance of two or more organizations (external benchmarking) in order to make improvements.

Best practices. Practices that, over time, have proven cost-effective, efficient and successful in bringing quality products and services to the marketplace.

Bond. Documentary promise to repay long-term borrowed money with interest at a definite or determinable future date.

Capital assets. Assets, whether tangible or intangible, acquired with the expectation that they will remain in service for a number of accounting periods. (Compare fixed assets.)

Capitalizing expenditure. The recording and carrying forward into one or more future financial periods as a depreciable asset any costs the benefits of which will be realized over the period(s) concerned.

Cash flow. The net amount of money received by an entity over a given period.

Charge. A levy that is designed and applied specifically to recover the costs of providing facilities and services for civil aviation.

Commercialization. An approach to management of facilities and services in which business principles are applied or emphasis is placed on development of commercial activities.

Convertible currency. A currency which can be exchanged for gold or a major currency.

Corporate governance. Overseeing the running of a company or an entity by its management and its accountability to shareholders and other interested parties.

Cost of capital. The cost of raising debt or equity funds.

Current assets. Assets that can be realized within one year.

Depreciation of assets. The decrease in the value of an asset due to wear and tear through use, action of the elements, inadequacy or obsolescence, normally over a predetermined period of time (depreciation period/book life of the asset).

Differential charges. Any preferential charges, rebates, discounts or other reductions in the charges normally payable for the use of air navigation facilities and services.

Dividends. Distribution of earnings in cash or in stock.

Economic life (of an asset). The period during which an asset is expected to yield a rate of return.

Economic oversight. The function by which a State supervises the commercial and operational practices of an air navigation services provider.

En-route phase. That part of flight from the end of the take-off and initial climb phase to the commencement of the approach and landing phase.

Equity capital. Money furnished by the owner(s) of the entity.

Financial statements. These include the income statement and the balance sheet. The income statement summarizes all revenues and expenses, with the difference between the two totals being either a profit or a loss. The balance sheet summarizes assets and liabilities, with the difference between the two representing an increase or decrease in net worth.

Fixed assets. Tangible assets that are permanent in nature and generally held for a period of more than one year (normally buildings and equipment).

Fixed costs. Costs which, in the short-term, remain unchanged regardless of whether or not the volume of services provided increases or decreases.

Flight information region (FIR). An airspace of defined dimensions within which flight information service and alerting service are provided.

Flight information service. A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

General aviation. All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.

Great circle. A circle on the surface of the earth, the plane of which passes through the centre of the earth.

Great circle distance. The length of the shorter arc of the great circle joining two points.

Key performance areas (KPA's). Key areas of performance corresponding to the expectations of providers, regulators, users and other interested parties.

Key performance indicators (KPIs). Current/past performance, expected future performance (estimated as part of forecasting and performance modelling), as well as actual progress in achieving performance objectives are quantitatively expressed by means of indicators. Since indicators support objectives, they should be defined having a specific performance objective in mind.

Lease. The right to occupy certain defined premises or possess some equipment for a fixed period, which may be used for business purposes. The premises or equipment is returned to the owner on expiry of the lease, generally without paying any compensation.

Liabilities. Debt of the entity in the form of financial claims on an entity's assets.

Liquidity. A state or situation determined by the extent or degree of possession of assets which are immediately available for discharge of financial obligations.

Marginal cost. The cost of producing another unit or output.

Modulated charges. Charges that are adjusted according to the time and/or situation of use of the facility or service concerned (for example, peak/off-peak hours, air traffic congestion, noise and local air quality aspects).

Multinational facility or service. A facility or service established for the purpose of servicing international air navigation in airspace extending beyond the airspace serviced by a single State. It could be operated by one State, a group of States or an international operating agency. Guidance on the establishment of such a facility or service is included in all regional air navigation plans.

Multiplier effect. Normally expressed as a factor showing how much the direct economic impact of the air navigation facilities and services is increased by the indirect and induced economic effects of the air navigation facilities.

Net asset value. The value of the total assets of an entity after deduction of all debts (equals equity capital).

Operating life (of an asset). Period of time that a fixed asset can be used.

Performance management. An interactive process through which the performance of providers is expected to improve over time. This process consists of several steps, i.e. defining performance objectives, selecting performance indicators and setting their targets, monitoring performance, and reporting and assessing performance.

Pre-funding. Partial or complete financing of an air navigation facility project through charges levied on users prior to completion of the facility concerned.

Price cap. The maximum price set under a prices policy or under specific legislation.

Private involvement. Minority participation or involvement of a private entity in the ownership of certain facilities and services. Private involvement may also take the forms of management contract or lease.

Privatization. Transfer of full or majority ownership of facilities and services to the private sector.

Regional air navigation plans (ANPs). Air navigation plans that set forth in detail the facilities, services and procedures required for international air navigation within a specified area.

Residual value. Cost (of an asset) less any part of the cost that has been depreciated or amortized, or treated as an expense or loss.

Tax. A levy that is designed to raise national or local government revenues which are generally not applied to civil aviation in their entirety or on a cost-specific basis.

Users. This term refers to aircraft operators as users of air navigation facilities and services. The term “end-users” refers to ultimate consumers in general (for example, passengers and shippers).

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CHAPTER 1

ICAO's Policies on Charges and States' Responsibilities

This chapter focuses on ICAO's key policies on air navigation services charges and the responsibilities assigned to Contracting States under the *Convention on International Civil Aviation* (Doc 7300).

Part A addresses the basic principles expressed in: a) Article 15 of Doc 7300; b) Assembly resolutions on policies in the air transport field; and c) *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082).

Part B focuses on States' responsibilities regarding the provision of airport and air navigation facilities and services.

Part C summarizes ICAO's policies on objectives, forms and implementation of economic oversight for air navigation services, as well as dispute resolution.

Finally, Part D summarizes ICAO's policies with regard to consultation with users on charges and air navigation services development plans.

PART A — ARTICLE 15 OF THE CONVENTION ON INTERNATIONAL CIVIL AVIATION, ASSEMBLY RESOLUTIONS AND ICAO'S POLICIES ON CHARGES

CONVENTION ON INTERNATIONAL CIVIL AVIATION

1.1 The basic principles established by ICAO in the area of charges for airports and air navigation services are expressed in Article 15 of the *Convention on International Civil Aviation* (Doc 7300), usually referred to as the Chicago Convention, as follows:

Airport and similar charges

Every airport in a Contracting State that is open to public use by its national aircraft shall likewise, subject to the provisions of Article 68, be open under uniform conditions to the aircraft of all the other Contracting States. The like uniform conditions shall apply to the use, by aircraft of every Contracting State, of all air navigation facilities, including radio and meteorological services, which may be provided for public use for the safety and expedition of air navigation.

Any charges that may be imposed or permitted to be imposed by a Contracting State for the use of such airports and air navigation facilities by the aircraft of any other Contracting State shall not be higher,

- a) As to aircraft not engaged in scheduled international air services, than those that would be paid by its national aircraft of the same class engaged in similar operations, and
- b) As to aircraft engaged in scheduled international air services, than those that would be paid by its national aircraft engaged in similar international air services.

All such charges shall be published and communicated to the International Civil Aviation Organization, provided that, upon representation by an interested Contracting State, the charges imposed for the use of airports and other facilities shall be subject to review by the Council, which shall report and make recommendations thereon for the consideration of the State or States concerned. No fees, dues or other charges shall be imposed by any Contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a Contracting State or persons or property thereon.

1.2 In summary, Article 15 of the Chicago Convention sets out the following three basic principles:

- a) uniform conditions shall apply to the use of airports and air navigation services in a Contracting State by aircraft of all other Contracting States;
- b) the charges imposed by a Contracting State for the use of such airports or air navigation services shall not be higher for aircraft of other Contracting States than those paid by its national aircraft engaged in similar international operations; and
- c) no charge shall be imposed by any Contracting State solely for the right of transit over or entry into or exit from its territory of any aircraft of a Contracting State or persons or property thereon.

The two first principles, which relate to non-discrimination, do not appear to have given rise to misunderstandings. Nevertheless, in some instances, the third principle has been interpreted to mean that no charges are to be levied when an aircraft flies into, out of or over a State. That, however, is not the intent of this principle, since all States are fully within their rights to recover, through charges, the costs incurred in the provision of airport and air navigation facilities and services. The substance of this principle is in fact that a State should not charge solely for granting an authorization for a flight to operate into, out of or over its territory.

1.3 Two other aspects are also addressed in Article 15. The first is that States are obliged to publish their airport and air navigation services charges and also communicate them to ICAO. This information is collected and published by ICAO in the *Tariffs for Airports and Air Navigation Services* (Doc 7100).

1.4 Article 15 also provides for ICAO, upon representation by an interested Contracting State, to review the charges imposed and make recommendations thereon to the State or States concerned. It should be noted that the Article specifically refers to representation by an interested Contracting State only, not by any other party.

1.5 As to the status of the principles in Article 15 and, for that matter, all the Articles of the Chicago Convention, an ICAO Contracting State cannot exempt itself from applying any of the principles expressed therein since by signing the Chicago Convention the signatory State binds itself to adhere to all its Articles without exception.

ASSEMBLY RESOLUTIONS

1.6 ICAO's policies in the air transport field are expressed in consolidated Assembly resolutions, which are updated at each ordinary session of the Assembly. These resolutions address policy matters in all sectors of the ICAO Air Transport Programme, through dedicated appendices. The latest Assembly resolution in force is A37-20 — *Consolidated statement of continuing ICAO policies in the air transport field*, where Appendix F relates to airports and air

navigation services. A37-20, Appendix F, urges Contracting States to ensure that Article 15 of the Convention is fully respected, regardless of the organizational structure under which airports and air navigation services are operated, and reminds States that they alone remain responsible for the commitments they have assumed under Article 28 of the Chicago Convention.

1.7 ICAO's policies on environmental levies are expressed in Assembly Resolution A37-18 — *Consolidated statement of continuing ICAO policies and practices related to environmental protection — General provisions, noise and local air quality*.

1.8 The use of charges for the purpose of environmental protection may be applied in two areas: aircraft noise and aircraft engine emissions. ICAO's existing policies on noise-related charges are not applicable to air navigation services. Aircraft engine emissions have an impact on the environment at two levels:

- a) on local air quality (LAQ); and
- b) globally.

Policies regarding LAQ-related charges, which are contained in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082), Section II, paragraph 9, are not applicable to air navigation services; at the global level, ICAO's policies are in favour of using measures other than levies.

ICAO'S POLICIES ON CHARGES

1.9 Additional and more detailed policy guidance on charges for airport and air navigation services is provided in Doc 9082. The policies on charges are revised periodically by the Council following major international conferences on airport and air navigation services economics, although most of the basic philosophy and principles have remained unchanged over the years. ICAO's policies on charges differ in status from the Chicago Convention in that an ICAO Contracting State is not legally bound to adhere thereto, unlike the Articles of the Chicago Convention. However, since the principles in Doc 9082 are based on recommendations by major international conferences, States are morally committed to follow them and to ensure that their cost-recovery practices conform thereto. Paragraph 1 of the Foreword to Doc 9082 notes that, as per a recommendation adopted by the Conference on the Economics of Airports and Air Navigation Services (CEANS 2008), States are encouraged to incorporate the four key charging principles of non-discrimination, cost-relatedness, transparency and consultation with users in their national legislation, regulation or policies, as well as into their air services agreements, in order to ensure compliance by airport operators and air navigation services providers (ANSPs).

1.10 An important consideration of Doc 9082 is that there should be a balance between the respective interests of airports and ANSPs on one hand and of aircraft operators on the other, particularly in view of the importance of an air transport system to States and its influence in fostering economic, cultural and social interchanges between States. This especially applies during periods of economic difficulty; therefore, it is recommended that States encourage increased cooperation between airports and ANSPs and aircraft operators to ensure that economic difficulties facing them all are shared in a reasonable manner (Doc 9082, Foreword, paragraphs 4 and 8 refer).

1.11 Section I of Doc 9082 addresses some issues that are common to airports and air navigation services: scope and proliferation of charges, organizational and managerial issues, economic oversight, economic performance, consultation with users, prefunding of projects, and currency issues.

1.12 Section III of Doc 9082 concerns air navigation services charges and is, together with Section I, the focus for the description in this part of the manual.¹

1.13 In Section I of Doc 9082, Section I, paragraphs 2 and 3, concern is expressed over the proliferation of charges on air traffic. It is recommended that States:

- a) permit the imposition of charges only for services and functions which are provided for, directly related to, or ultimately beneficial for, civil aviation operations; and
- b) refrain from imposing charges which discriminate against international civil aviation in relation to other modes of international transport.

1.14 Experience gained worldwide indicates that where airports and air navigation services have been operated by autonomous entities, their overall financial situation and managerial efficiency have generally tended to improve (Doc 9082, Section I, paragraph 4). Therefore, it is recommended that, where this is economically viable and in the best interests of providers and users, States consider establishing autonomous entities to operate their airports and air navigation services (Doc 9082, Section I, paragraph 5). When considering the commercialization or privatization of airports and ANSPs, States should bear in mind that they are ultimately responsible for safety, security and economic oversight of these entities (Doc 9082, Section I, paragraph 6). Whenever an autonomous entity is established to operate an airport(s) and/or provide air navigation services, the State should ensure that all relevant obligations of the State specified in the Convention on International Civil Aviation, its Annexes and in air services agreements are complied with, and that ICAO's policies on charges are observed (Doc 9082, Section I, paragraph 7). Furthermore, States should ensure the use of best practices of good corporate governance for airports and ANSPs. In order to promote transparency, efficiency and cost-effectiveness in the provision of an appropriate quality of facilities and services, airports and ANSPs should apply management best practices in all areas of their business (Doc 9082, Section I, paragraphs 9 and 10).

1.15 The principles contained in Section III of Doc 9082 cover such subjects as the cost basis for air navigation services charges, allocation of costs of air navigation services among aeronautical users, air navigation services charging systems, approach and aerodrome control charges, route air navigation services charges, and charges for air navigation services used by aircraft when not over the provider State.

1.16 Among the basic principles included in Doc 9082 concerning the cost basis for air navigation services charges are that:

- a) as a general principle, where air navigation services are provided for international use, the State may require the users of such services to pay the portion of costs properly allocable to them. At the same time, international civil aviation should not be asked to meet costs which are not properly allocable to it. States should ensure that ANSPs maintain their accounts, where appropriate in accordance with internationally accepted accounting standards, in a manner that ensures that air navigation services charges levied on international civil aviation are properly calculated (Doc 9082, Section III, paragraph 1); and
- b) the cost to be allocated is the full cost of providing the air navigation services, including appropriate amounts for cost of capital and depreciation of assets, as well as the costs of maintenance, operation, management and administration (Doc 9082, Section III, paragraph 3 i)).

1.17 Other principles and recommendations of particular relevance in the context of the cost basis for air navigation services charges, charging systems and the collection of charges are that:

1. The highlighting of certain principles in Doc 9082 should not be interpreted to mean that these principles are more important than other principles in Doc 9082.

- a) air navigation services may produce sufficient revenues to exceed all direct and indirect operating costs and so provide for a reasonable return on assets (before tax and cost of capital) to secure efficient financing for the purpose of investing in new or enhanced air navigation services infrastructure (Doc 9082, Section III, paragraph 3 vi));
- b) the allocation of the costs of air navigation services among aeronautical users should be carried out in an equitable manner. The proportions of cost attributable to international civil aviation and attributable to others (including domestic civil aviation, State or other exempted aircraft, and non-aeronautical users) should be determined in such a way as to ensure that no users are burdened with costs not properly allocable to them according to sound accounting principles. It is also recommended that States ensure that basic utilization data in respect of air navigation services are maintained, when such information is relevant to the allocation and recovery of costs. Such data could include the number of flights by user category, whether domestic or international, as well as distances flown and information on aircraft type or weight (Doc 9082, Section III, paragraph 5);
- c) any charging system should, so far as possible, be simple, equitable and, with regard to air navigation services charges, suitable for general application at least on a regional basis. The administrative cost of collecting charges should not exceed a reasonable proportion of the charges collected (Doc 9082, Section III, paragraph 6 i));
- d) charges should not be imposed in such a way as to discourage the use of facilities and services necessary for safety or the introduction of new aids and techniques. The facilities or services provided for in the ICAO regional air navigation plan(s) or in any recommendations of the relevant ICAO regional air navigation meeting as approved by the Council are considered to be necessary for safety and efficiency (Doc 9082, Section III, paragraph 6 ii));
- e) consistent with the form of economic oversight adopted, States should assess, on a case-by-case basis and according to local or national circumstances, the positive and negative effects of differential charges applied by ANSPs. States should ensure that the purpose, creation and criteria for differential charges are transparent. Without prejudice to modulated charging schemes, the costs associated with such differential charges should not be allocated to users not benefiting from them. Charges offered for the purpose of attracting or retaining new air services should only be offered on a temporary basis (Doc 9082, Section III, paragraph 6 v));
- f) when charging systems are introduced or significantly revised, account should be taken of the economic and financial impact on both the users and the provider State or States. To avoid undue disruption to users, resulting increases in charges should be introduced on a gradual basis; however, it is recognized that in some circumstances a departure from this approach may be necessary (Doc 9082, Section III, paragraph 6 vii)); and
- g) charges should be levied in such a way that no facility or service is charged for twice with respect to the same utilization. In cases where certain facilities or services have a dual role (for example, approach and aerodrome control as well as en-route air traffic control), their cost should be equitably allocated for charging purposes (Doc 9082, Section III, paragraph 6 viii)).

1.18 A noteworthy aspect of ICAO's policies on charges with reference to search and rescue services and accident investigation is the limitation to any permanent civil establishment of equipment and personnel when determining the total costs of air navigation services (Doc 9082, Appendix 2 — Other ancillary aviation services).

1.19 No specific reference is made in Doc 9082 to particular cost-recovery principles for CNS/ATM systems because all basic ICAO charging principles for air navigation services apply to the implementation of CNS/ATM systems. However, special considerations are required with respect to organizational, managerial and cooperative aspects, as well as financing, costing and cost-recovery mechanisms.

PART B — STATES' RESPONSIBILITIES

1.20 As noted in Part A above, Article 15 of the Chicago Convention establishes the basic charging principles for airports and air navigation services and reinforces the concept of freedom of access and non-discrimination set forth in Article 11 with respect to the use of facilities and services for the aircraft of Contracting States in the operation of international air transport.

1.21 Also relevant is Article 68, which sets forth that each Contracting State may designate the route to be followed within its territory by any international air service and the airports which any such service may use.

1.22 Under Article 28 of the Chicago Convention, basic responsibilities are assigned to Contracting States. For example, it is the State that is responsible for the provision of airport and air navigation facilities and services, in accordance with the standards and practices recommended or established from time to time, pursuant to the Convention.

1.23 In addition, there are obligations that States undertake in air services agreements, where again the State alone is responsible for the observance of stipulations addressing, for example, access to certain airports and routes and key charging principles such as non-discrimination, cost-relatedness, transparency and consultation with users.

PART C — ECONOMIC OVERSIGHT OF AIR NAVIGATION SERVICES

INTRODUCTION

1.24 As noted in Part A above, States, in view of the potential abuse of the dominant position of ANSPs, are responsible for the economic oversight of their operations. Economic oversight is defined as the function by which a State supervises the commercial and operational practices of an ANSP. In performing their economic oversight function, States should, in particular, ensure that ANSPs consult with users and that appropriate performance management systems are in place.

1.25 When goods and services are supplied by competitors vying for customers, the economic well-being of consumers can often be left in the hands of market forces, which act as an “automatic regulator” for ensuring efficiency in setting prices and establishing the quantity and quality of supply. By contrast, when supply in a given market is dominated by a single provider, the question of regulatory intervention becomes a public concern.

1.26 In recent years, the progress of commercialization has been putting more competition and commercial pressure on ANSPs. There are aspects of operations of providers where more limited competition “for” the market is an option that can be considered. For example, there are already many instances where the provision of aerodrome control services is subject to periodic competitive tendering. Moreover, regional cooperation in the provision of air navigation services may lead to the establishment of a certification/designation mechanism where all ANSPs will have to be certified against common requirements. Where these certificates are mutually recognized through an entire region, States will be free to designate any entity with a valid certificate to provide air navigation services in a specific part of their airspace.

1.27 However, these developments do not imply any changes to the responsibility of States regarding economic oversight. In many States, air navigation services continue to be provided by a statutory or natural monopoly not subject to direct or even realistic indirect competition within the same airspace. The focus by ANSPs on commercial activities and cost reduction may sometimes negatively affect the interests of certain categories of users. Furthermore, commercialization may have reduced the awareness of, and adherence by ANSPs to, States’ international obligations including ICAO’s policies on charges. These responsibilities can be assumed only by the State itself.

OBJECTIVES OF ECONOMIC OVERSIGHT

1.28 Economic oversight works best when clear objectives and incentives are given to ANSPs so that they can provide services in the most cost-effective manner and with an appropriate level of quality. Paragraph 13 of Section I of Doc 9082 sets out a number of objectives reflecting areas of potential need for appropriate economic oversight as follows:

- a) minimize the risk of ANSPs engaging in anti-competitive practices or abusing any dominant position they may have;
- b) ensure non-discrimination and transparency in the application of charges;
- c) ascertain that investments in capacity meet current and future demand in a cost-effective manner; and
- d) protect the interests of passengers and other end-users.²

To promote these objectives, consistent with the form of economic oversight adopted, States should ensure that ANSPs consult with users and that appropriate performance management systems are in place.

1.29 The priority for each objective may vary depending on the specific circumstances in each State, and there should be a balance between such public policy objectives and the interests of the autonomous/private entities to obtain the optimal effects of commercialization or privatization.

POSSIBLE FORMS OF ECONOMIC OVERSIGHT

1.30 Economic oversight may take several different forms, from a light-handed approach (such as the application of competition law) to a more robust approach (such as direct regulatory interventions in the economic decisions of ANSPs), as follows:

- a) application of competition law;
- b) fallback regulation ("market regulation");
- c) institutional requirements ("institutionalized checks and balances");
- d) price cap regulation ("incentive-based regulation"); and
- e) rate of return regulation ("cost of service regulation").

Application of competition law

1.31 The concept of competition law refers to laws (including regulations and policies) that aim to foster or maintain competition in markets by prohibiting anti-competitive practices. The process of applying competition law normally consists of responding to complaints, monitoring market behaviours, prosecuting offenders, adjudicating liability, and imposing sanctions upon parties adjudged to have violated the law. Such actions are likely to also have a deterrent effect on anti-competitive behaviours.

2. The term "end-users" refers to ultimate consumers in general (e.g. passengers and shippers).

Fallback regulation

1.32 Fallback regulation is predicated on making explicit the “threat” of a more robust form of economic oversight if a company does not ensure that its behaviour stays within “acceptable” bounds. The benefit of this light-handed approach is to mitigate a potential risk of abusing dominant position without incurring the regulatory costs and distortions. Normally, this would be accompanied by the application of standard competition law. For this approach to work, the ANSP must have an understanding of what constitutes unacceptable behaviour. A difficulty might be that by defining the commercial boundaries in detail there might be a risk of creating precisely the regulatory distortions that it seeks to avoid.

Institutional requirements

1.33 Research and experience indicate that the interests of all stakeholders can be best served if users are sufficiently well-informed through the constructive engagement of ANSPs and users. Certain institutional requirements can enhance transparency and the flow of information, thereby transmitting the right signals and responses between ANSPs and users.

1.34 Light-handed types of institutional requirements include conditions on:

- a) *mandatory consultation between ANSPs and users* in the establishment of air navigation services charges and development plans in order to ensure adequate disclosure of costs and transparency in the economic and financial underpinnings of rate and service proposals. If a meaningful consultation process is well-established, it could eliminate or reduce the need for a robust form of economic oversight;
- b) *implementation of a performance management system* (see Chapter 4); and
- c) *establishment of corporate governance* including stakeholder membership on the board of directors, which is a means of promoting the adequate flow of economic information between the ANSP and its users.

1.35 More robust types of institutional requirements include conditions on:

- a) *joint ownership*, or mixed enterprise, as a means of ensuring information flow, consultation and consensus in the establishment of air navigation services charges and development plans; however, there might be potential anti-competitive issues involved regarding airline competition and barriers to entry where joint ownership means airlines having a large say about investment plans and about the management of the ANSP; and
- b) *not-for-profit financial status*. The rationale behind this arrangement is that removing the profit incentive from an otherwise commercially oriented organization relieves it of the stimulus to abuse its dominant position. However, it can also be argued that a profit motive protects the public against the risk of an ANSP failing to generate sufficient surplus revenues to sustain and modernize its facilities on a timely basis. In whatever case, the managers will have to trade off between multiple objectives, which are well-known problems of management incentives.

Price cap regulation

1.36 Some forms of economic oversight are designed to encompass incentive elements within them. The archetypal example is price cap regulation, under which the regulator sets a maximum chargeable rate applicable for a specific period, normally by using the retail/consumer price index minus (or plus) an incentive target (an “x” factor). If the

ANSP exceeds the target, it may keep any over-recoveries. Where the target is not met, the ANSP would not be allowed to increase charges to compensate for the under-recovery and would have to find the means to balance its accounts during the regulated period. Under this scenario, the ANSP has a strong incentive to improve its efficiency and reduce its costs.

1.37 The price cap regulation has some potential shortcomings. For example, over time, as the ability of the regulated company to outperform the cap is reduced, the incentive effect is less effective. Also, since a price cap is usually set for several years on the basis of projected capital expenditure as well as on existing assets, the ANSP may have an incentive to overstate capital expenditure prior to the price cap being set and, subsequently, not to undertake the full programme (the price cap can give the ANSP a short-term return on the assets without actually having to invest in them). Such issues can largely be dealt with through the establishment of a clear and comprehensive definition of outputs and their pricing, which allows the regulated entity to argue that the lower-than-planned expenditure is the result of (desirable) efficiency gains. The resulting regulatory system does, however, become increasingly complex and hence more expensive for the regulator, the regulated companies and all users.

1.38 Output-based price caps may mitigate this problem. Prices set instead in relation to output performance may provide better incentives to invest efficiently. The price can be varied up or down based on meeting performance specifications. If price caps can be linked closely to outputs over time, the ANSP will have fewer incentives to delay or not undertake productive investments. The barriers to this form of regulation are the long lead times to investment such that the benefits in terms of outputs are often achieved only many years later and the challenge of defining outputs in such a way that they cover service quality as well as capacity.

Rate of return regulation

1.39 A rate of return regulation (also called cost of service or cost plus regulation) is designed principally to address the issue of excessive profits in enterprises with monopoly characteristics. The ANSP may be required to obtain approval for the level of charges and investments, the objective being to limit the provider's rate of return on capital at the level prevailing in a competitive market. In its simplest form, it allows cost pass-through for both operating and capital expenditures. However, rate of return regulation may provide the ANSP with a strong incentive for over-investment in order to increase the volume of its profit. Where there are no other incentives on efficiency (for example, through governance) rate of return regulation may provide limited incentive to cost-effectiveness and may also encourage over-investment beyond the requirement of users.

SELECTING APPROPRIATE FORMS OF OVERSIGHT

1.40 The selection of the appropriate form of economic oversight depends, *inter alia*, on the degree of competition, and the legal, institutional and governance frameworks, including the roles, rights and responsibilities of the different parties involved, as well as the costs related to specific oversight forms. Whatever approach is adopted, economic oversight should be performed in a transparent, efficient and cost-effective manner, while keeping regulatory interventions at a minimum and as required, for instance, when there is a disagreement between the parties, where strong market positions create the potential for overcharging, or where there is increased potential for discriminatory behaviour against specific users. Since circumstances change over time, the different options might be more or less appropriate at different times. It is therefore desirable to ensure a certain degree of flexibility so that it can be adapted to changing circumstances.

1.41 In selecting the appropriate form of economic oversight, States should first consider the scope and degree of competition. Where competition or the threat of it is sufficiently strong, the application of competition law is likely to be adequate.

1.42 One of the justifications for selecting other forms of economic oversight, therefore, requires that competition and the application of competition law would be insufficient to address the risk that an ANSP could abuse any dominant position it may have. The issue here is how to identify the circumstances in which competition or the threat of it would not be sufficiently strong. In general, the degree of competitive market constraints could be measured in terms of actual and potential competition from nearby, rival ANSPs or from other modes of transport. The size of the entities and traffic volume relevant to the market are also factors to be taken into account.

1.43 Even where competition may not be considered sufficiently strong, there may be circumstances in which the need for a robust form of economic oversight is less obvious. For example, an ANSP, in collaboration with its users, is the party best placed to determine the optimal service standards, charges system and the level of the charges in relation to the services rendered. In such cases, the scope of economic oversight should be limited to encouraging that changes to the charges system and to the level of charges be made in agreement between the ANSP and all categories of users where this is achievable.

1.44 Other important factors in assessing the most appropriate approach are the potential costs and benefits related to the particular form of economic oversight. The operation and administration of economic oversight is not cost-free, and the cost associated to it may increase as the approach taken by a State moves from a light-handed to a more robust form of economic oversight. In the extreme, the regulatory cost may outweigh the expected benefit. The choice of an appropriate form going beyond the application of competition law is, therefore, a matter of searching the spectrum of options for protecting public interests at an acceptable level and at a minimum regulatory cost.

1.45 It is possible to conceive variations to each form of economic oversight set out above. In some situations, the combination of two or more forms may yield the best form of economic oversight.

IMPLEMENTATION OF ECONOMIC OVERSIGHT

1.46 States may perform their economic oversight function through legislation or rule-making, establishment of a regulatory mechanism, etc. The mechanism by which economic oversight takes place can be key to its success in achieving its objectives in an efficient and cost-effective manner. It is important for States to consider carefully the roles, rights and responsibilities of the different parties involved — governments, ANSPs and users — and to exercise their economic oversight function, in particular concerning economic performance management and consultation with users, in an internally consistent manner.

1.47 Where a State chooses not to establish an autonomous ANSP, the economic oversight function should be functionally separated from the operation and provision of air navigation services within the administration and have a clearly defined role and power (see Chapter 2, Part B).

1.48 Taking account of local circumstances, a State may wish to establish an independent economic oversight entity with the responsibility of reviewing and sanctioning any action on pricing, investments and service quality. An appropriate balance is required between independence and accountability for the economic oversight entity as well as for the ANSP that it would regulate. In order to hold the regulating entity accountable, the government would need to give it clear objectives, preferably through statute, coupled with sufficient operating autonomy. Without such a balance, there will be a risk to regulatory commitment and credibility.

1.49 A State can also use a third-party advisory commission as a less formal tool to help perform its economic oversight function. The advisory commission is often considered appropriate when parties concerned do not form cohesive groups and thus have little or no means by which to organize for class action. The advisory commission might be composed of air carriers, general aviation, the military, representatives of end-users, and other principal parties concerned. A strong advisory commission would be equipped to engage in meaningful dialogue with the ANSP management on an ongoing basis and to review specific pricing, investments and service levels proposals.

1.50 Another important aspect to be considered is the possible need for additional resources to perform an economic oversight function. Some States may lack the capacity to adequately fulfil their economic oversight responsibilities, given competing priorities on safety, security, environment and liberalization of air transport. For those States, the adoption of a region-wide regulatory framework could be a useful option to pull their resources together in performing their economic oversight function.

DISPUTE RESOLUTION

1.51 If a State defines an acceptable standard of behaviour, or if there is a contract between an ANSP and its users, arbitration or a dispute resolution mechanism could come into play when the provider and the users are unable to agree about their application in practice. It might be necessary to specify “triggers” for initiating arbitration and probably also criteria for settling disputes. The main advantage of such arbitration is that it would pressure the parties to reach and adhere to commercial agreements and in doing so would help to reinforce any underlying countervailing market power that the users may possess. However, the success of arbitration is likely to depend, *inter alia*, on the market power of the ANSP, particularly if it is the only “regulatory” mechanism available. It may also give rise to gaming behaviours by the parties, trading off a potential arbitration outcome against a negotiated agreement.

1.52 The involvement of autonomous entities in the management of air navigation services, as well as the growth of new types of aircraft operators, has brought about business practices and new market forces that can potentially result in new and different kinds of disputes that will need to be resolved before they enter the international arena. Economic oversight should provide for equitable, transparent, expeditious and effective dispute settlement mechanisms that build confidence between ANSPs and their users. Its purpose is to instil trust between parties where market forces do not provide for resolution of disputes.

1.53 No single mechanism can meet all needs and circumstances. In general, the procedures for settling a dispute between parties to an agreement may be carried out in two stages: a) consultations between the parties; and/or b) at the request of either party, the submission of the dispute to an arbitration tribunal for a decision. Usually, decisions reached under this latter stage of the mechanism are binding and both parties have the obligation to enforce the decision.

1.54 In addition to administrative and judicial proceedings, a State may consider a “first-resort” mechanism, which could provide for an intermediate level between the two stages of consultation and arbitration. This intermediate level calls for either an independent mediator or an independent dispute settlement panel to be used for the fact-finding investigation, including determination of the substance of the dispute or for providing a recommendation to remedy the dispute. It is based on clear time frames, implementation arrangements, interim measures and provision for third-party involvement.

1.55 An independent tribunal could be established where users could appeal if they had reason to believe they were being subject to abuse of dominant position or other unfair practices, although the need to avoid tactical use of such a mechanism with vexatious claims would need to be considered. This body could also handle appeals lodged with respect to complaints about non-compliance with the required principles for establishing charges. The mechanism should not affect the right of the parties to have access to other dispute resolution mechanisms, including those under general competition laws, nor does it preclude the implementation of the formal arbitration process in an agreement.

1.56 Third-party protection could also be ensured through the use of a less costly mechanism, such as an ombudsman. Note should be taken, however, that while the role of an ombudsman is to provide a neutral forum, an ombudsman ultimately has no enforcement power.

1.57 In addition, with respect to complaints relating to decisions taken by the regulator (such as an economic oversight entity), the right of appeal to a higher tribunal should be available. A compliance and enforcement regime providing for the creation of an administrative monetary penalty system, with appeals to an independent appeal tribunal, could be envisaged. It has to be recognized, however, that while an effective enforcement mechanism is a point of critical importance, it could be very demanding in terms of resources for many States.

PART D — CONSULTATION WITH USERS

NATURE OF CONSULTATION

1.58 Good relations between regulators, ANSPs and users are important for the sound development of air transport. Consultation and cooperation lead to increased mutual understanding between ANSPs and users, thereby improving efficiency and cost-effectiveness in the provision and operation of air navigation services with all the parties striving to move in the same direction. Consultation with users covers all aspects referred to in Doc 9082, namely, changes in charging systems or levels of charges, air navigation services planning (capacity development and investment plans), performance management, service quality and pre-funding of projects.

1.59 The key purpose of consultation with users is to ensure that the needs and wishes of users are considered in the context of the ANSP's plans. Effective consultation will help both to prioritize investments and to ensure that adequate capacity and services will be provided to meet the demand of current and future users.

1.60 Consultation with users may provide useful comments and suggestions for improvements in the management of the charging system and lower costs for both ANSPs and users. Consultation might also reveal aspects of the proposed charges that may inadvertently discriminate unfairly against certain user groups. Through consultation, users become aware of the financial implications in terms of the charges that they would have to pay.

1.61 Successful consultation depends on the goodwill and constructive engagement of all the parties involved. However, there is a wide variation between ANSPs in the degree of consultation and users' involvement. While some ANSPs have established cooperative arrangements such as service level agreements (i.e. defining the level of service provided and the rules that govern the ANSP/user relationship on the agreed services), some other ANSPs around the world do not maintain a proper and regular consultation process or do not consult users at all. In some cases, even where a consultation process has been established, there is limited engagement by the ANSP and/or the users in the process, which illustrates the importance of all sides participating in a meaningful way in order to ensure that the process delivers an optimal outcome.

THE CONSULTATION PROCESS

1.62 As recommended in ICAO's policies on charges in Doc 9082 (Section I, paragraph 13), States should ensure, within their economic oversight responsibilities, that all the users concerned are properly consulted on issues that could materially affect them. Specific procedures for effective consultation should be determined on a case-by-case basis, taking into account the form of economic oversight adopted by the State and the size and scale of the ANSP's activities.

1.63 Where there are no cooperative arrangements in place that are acceptable to all parties, States are encouraged to ensure that their ANSPs establish a clearly defined, regular consultation process with users (Doc 9082, Section I, paragraph 21). The consultation process could be maintained even in times where no changes in charges, capacity development or investments are being contemplated by an ANSP.

1.64 In general, consultation starts with advance notice of proposals. When a revision of existing charges or the imposition of new charges is contemplated by an ANSP or another competent entity, it is recommended that appropriate notice should normally be given to users, either directly or through their representative organizations, at least four months in advance, in accordance with the rules and regulations applicable in each State (Doc 9082, Section I, paragraph 21 i)).

1.65 Consultation documents should make clear the nature of the proposals, the parties most likely to be affected, the specific questions on which feedback is requested, and the time schedule for responses (Doc 9082,

Section I, paragraph 21 iv)). In any revision of charges or imposition of new charges, the users should be provided with transparent and appropriate financial, operational and other relevant information to allow them to make informed comments (Doc 9082, Section I, paragraph 21 ii)). Summaries of the main revenue and expense items as well as other financial data described in Chapter 4, Part A, illustrate, by way of examples, the type of information referred to.

1.66 All interested parties should be given the opportunity to present their views on the proposals (Doc 9082, Section I, paragraph 21 iv)). The written submissions by users or their representative organizations and any feedback obtained through associated consultative discussions should be considered, as far as possible, before reaching a decision. The best outcome from consultation would be consensus, and reasonable measures should be taken to achieve this, although it may not be possible, or even desirable, to reach consensus in each situation.

1.67 It is important to note that the party being consulted (users) has an equal responsibility as the party consulting (ANSP) to actively engage in the consultation process. For example, concerning capacity development and investment plans, the attention of users, particularly air carriers, should be drawn to their responsibility to provide advance planning data to individual ANSPs on a five- to ten-year forecast basis relating to future types, characteristics and number of aircraft expected to be used, the anticipated growth of aircraft movements, and other relevant matters (Doc 9082, Section I, paragraph 19).

1.68 Both ANSPs and users are to provide sufficient information to each other for meaningful consultations, while market-sensitive data should be protected properly. Also, the detail and amount of information to be provided would depend on the size of the ANSP and the nature of the proposals being undertaken. For example, for small ANSPs, a process such as that described in paragraph 1.69 below would be too cumbersome and expensive, and thus a less elaborate process and related information may be needed.

1.69 Decision documents should provide appropriate rationale for the decision taken. Especially where users' views have not been accepted, justification for the decision is necessary. With respect to the revision of charges or imposition of new charges, it is recommended again that reasonable advance notice of the final decision, of at least one month, be given to the users. This one-month period does not need to be in addition to the four months' advance notice period referred to in paragraph 1.64 above. Advance notice could enable the users to make any necessary arrangements for the additional costs involved and make adjustments to their fares, if needed. It also allows the users some time to invoke a dispute resolution mechanism, where available, prior to the revised or new charges taking effect.

PRE-FUNDING OF PROJECTS THROUGH CHARGES

1.70 Specific considerations for consultations related to the use of pre-funding charges for project financing are addressed in Appendix 4, paragraph 6.

DISPUTE RESOLUTION

1.71 Through consultation, wherever possible, a revision of existing charges or the imposition of new charges should be made in agreement between ANSPs and users. Failing such agreement, paragraph 18 of Section I of Doc 9082 acknowledges that the ANSP would continue to be free to impose the charges proposed, subject to a right of appeal to, or other determination by, a body independent of the airport, where available. The appeal process should be consistent with the form of economic oversight adopted in the State concerned. If there is not an appeal mechanism in place, it is even more important that the ANSP and users make every effort to reach an agreement on any changes in charging systems or levels of charges before they are introduced.

1.72 With the growth in the number of instances where provision of air navigation services is independent from direct government control, there may be a need for a neutral party at the national level to pre-empt and resolve disputes

before they enter the international arena (a “first-resort” mechanism). Balancing the interests of both ANSPs and users would be more effectively achieved through preventive measures including requirements for prior consultation and expeditious national treatment of complaints.

1.73 Paragraph 22 of Section I of Doc 9082 recommends that the first-resort mechanism should be flexible, with focus on conciliation or mediation but with the possibility of arbitration if the State concerned so decides. Specific procedures for consultations of this kind will have to be adapted to the diversity in the administrative, financial and legal frameworks within which ANSPs function. The procedures with regard to individual ANSPs will also need to take into account the size and scale of the ANSP's activities. The mechanism, if required, should be established in a manner consistent with the form of economic oversight adopted.

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CHAPTER 2

Ownership, Control and Governance of Air Navigation Services Providers

This chapter addresses various aspects of ownership and control structures of air navigation services, which have implications for their governance and performance.

Part A provides some basic comments essential for understanding the guidance in this chapter.

Part B describes the organizational structures for the provision of air navigation services by government-owned and controlled entities.

Part C addresses the issue of privatization of, and private participation in, air navigation services providers.

Part D describes the organizational characteristics of air navigation services provision.

Part E stresses the need to apply best practices so as to ensure good corporate governance of air navigation services providers.

Part F refers to the provision of certain air navigation services by third-party operators.

PART A — BASIC FACTORS

2.1 This chapter focuses on ownership and control structures of ANSPs, which have implications for their governance and performance. While ANSPs involving private interests, in whole or in part, remain limited to a handful of examples, many States have established autonomous entities by separating the provision of air navigation services from the executive arm of the State and by allowing them to operate on a commercial basis. There are also several cases where the provision of air navigation services is delegated to a multinational entity, as described in Chapter 3. Considering the diverse circumstances involved, it is not the intent of this manual to recommend one organizational format over another, but rather to provide guidance to States by describing relevant aspects of each format.

2.2 The decisions made by individual States as to the organizational format at the national level under which their ANSPs operate will depend on the situation in the State concerned, the organization of their airspace and whether provision of services is delegated to other States. Government policy, as well as the experiences of other States, may also affect decisions on organizational format. The most appropriate choice can be determined in the context of the following factors:

- a) the legal, institutional and governance frameworks of the government and system of administration in the State;

- b) the cost and source of funds required to meet infrastructure needs and to secure the continuity of operations taking into account traffic forecasts and risks (for example, contingency planning to deal with the potential impact of reductions in revenue that could occur due to decreases in air traffic);
- c) market conditions including degrees of competition among ANSPs and users;
- d) the requirements of the aviation industry; and
- e) the contribution of civil aviation to the State's economic and social objectives and the extent to which civil aviation has been developed to meet those needs.

2.3 The process of transition from one format to another will also depend on the circumstances and practices of each State but, in general, the transitional issues that may arise include:

- a) identification, valuation and transfer of assets;
- b) determination of the initial financial structure, staffing and conditions of employment including pension arrangements and maintenance of good labour relations during the transition period;
- c) establishment of good corporate governance;
- d) establishment of formal relationships between the ANSP and the government, including the military;
- e) establishment of formal relationships between the ANSP and the aviation safety and security organization(s);
- f) establishment of an economic oversight framework; and
- g) establishment of appropriate performance management systems and a consultation mechanism with users and other interested parties.

2.4 Regardless of the organizational format, according to Article 28 of the Chicago Convention, it is the State that is ultimately responsible for the provision and operation of air navigation facilities and services. ICAO's policies on charges in Doc 9082 emphasize that the State is ultimately responsible for safety, security and, in view of the potential abuse of dominant position by ANSPs, economic oversight of their operations (Doc 9082, Section I, paragraph 6). It is further stressed that whenever an autonomous entity is established, whether by a government or by private interests, the State should ensure that all relevant obligations of the State specified in the Chicago Convention, its Annexes and in air services agreements are complied with and that ICAO's policies and practices are observed (Doc 9082, Section I, paragraph 7).

2.5 It is noteworthy that the basic characteristics of air navigation services operations differ fundamentally from those of airport operations in several respects. First, unlike airports, air navigation facilities and services provided by a State¹ extend over the whole territory of the State concerned, or even beyond, and are frequently also dependent on facilities and services provided in other States. Second, air navigation services have national defence and external relations implications with respect to the sovereignty of the airspace in each State. Furthermore, in most States all or most of the air navigation services are not provided by a single entity (see Part D — Organizational characteristics of air navigation services provision, paragraphs 2.29 to 2.32, and Part F — Provision of certain air navigation services by third-party operators, paragraphs 2.37 to 2.40). Another major difference is the limited potential for revenues from non-

1. In this chapter, reference is frequently made to a "State" as the entity providing the air navigation services or participating in various related international or multinational activities. In many instances, though, these services are not provided by the State itself but by a separate entity to which the State has delegated that function.

aeronautical activities to contribute to the financial situation of ANSPs. While revenues from non-aeronautical activities for airports around the world represent on average almost half of their total revenues, according to ICAO studies the average is around three per cent for providers of air navigation services.

PART B — GOVERNMENT OWNERSHIP AND CONTROL

GENERAL

2.6 Government or public ownership may take the form of direct control and management, for example, through a civil aviation administration or through another ministerial department including military. Government control can also be exerted through bodies benefiting from a certain degree of autonomy, such as a government body with financial and operational autonomy, an autonomous corporation established under the provisions of a special statute (a statutory body), or a company established under company law.

GOVERNMENT DEPARTMENT

2.7 The historical organizational format of the ANSP is a fully integrated component of the State's bureaucracy, where the operation and provision of air navigation services represent only one of many functions performed by a government entity. Generally, this organizational format is characterized by the following features:

- a) the head of an air navigation services department reports directly to the executive level of government;
- b) as an organization within government it is funded by the government, sometimes from general taxation. User charges levied for air navigation services can be retained either by the government for general purposes or by the organization; and
- c) the organization may not be subject to taxes as paid by private business.

Another feature that may be relevant is that the organization provides all types of air navigation services and may also provide related services such as search and rescue coordination. It is also normally responsible for the safety regulation of the aviation industry and does not have a formal agreement regarding the provision of services to military aircraft.

2.8 When a government plays both the role of regulator (i.e. performing its economic oversight function) and service provider, consideration needs to be given to a clear separation of the regulatory and operational functions, with roles and powers clearly defined for each function as recommended in ICAO's policies on charges in Doc 9082, Section I, paragraph 12. This is because too close a relationship between the regulator and the service provider can result in conflicts of interest and undermine public confidence and trust in the adequacy of the system, and because overlaps in the regulatory and operational functions may lead to diffuse accountability relationships within the entity. Separation of functions enhances transparency in the decision-making process and makes clear the lines of accountability and the authority of one branch to monitor the activities of the other.

2.9 The internal separation process of the two functions involves delegation of responsibilities for management and finance, giving much greater autonomy to an air navigation services department within the entity. In general, the head of the air navigation services department may have considerable authority in decisions pertaining to the daily operations for the provision of air navigation services, including personnel management, and the authority to make purchases of supplies and arrange for any services required for that purpose. Decisions involving, for example, major purchases or investments in facilities and equipment would normally be subject to the government's approval process and treasury rules and may compete with other claims for government funds.

2.10 If the government accounting system is inadequate to provide the necessary accounting information, separate accounts following commercial accounting standards and practices will be necessary. The format of air navigation services accounts and their possible itemization is addressed in Chapter 5.

GOVERNMENT-OWNED AUTONOMOUS ENTITIES

Definition

2.11 An autonomous air navigation services entity (hereafter called autonomous ANSP) is essentially an independent entity established for the purpose of operating and managing air navigation services, which is empowered to manage and use the revenues it generates to cover its costs. Creating legal entities outside the government is usually called “corporatization”. In some circumstances, a single autonomous entity may operate both airports and air navigation services. The autonomous ANSP may also be responsible for the safety regulation of its services (and for aviation safety in general).

2.12 The government-owned autonomous ANSP normally has the following key features:

- a) the government, as owner of the organization, is responsible for setting the autonomous ANSP's objectives and monitoring its performance;
- b) a board of directors appointed by the government oversees the activities of the ANSP;
- c) the autonomous ANSP is self-financing, charges for its services, uses revenues from these charges to fund operating expenses and to finance capital expenditure, applies commercial accounting standards and practices, and may be required to achieve a financial return; and
- d) the autonomous ANSP may be subject to normal business taxes, and the employees are not likely to be civil servants and may therefore not have public sector pay and conditions of service.

2.13 The extent to which the government-owned autonomous ANSP can function like a private sector company depends on the degree of autonomy conferred to the entity. On the one hand, the autonomous ANSP can still be subject to government's directions or pressure to take account of wider public issues, as well as its approval process for major capital investment. On the other hand, the autonomous ANSP can be allowed to commercialize some of its activities. Commercialization refers to an approach to management of facilities and services in which business principles are applied or emphasis is placed on development of commercial activities.

Development and advantages

2.14 In the past two decades, the number of autonomous ANSPs has grown in all regions. While the establishment of an autonomous ANSP would not necessarily result in an unprofitable ANSP becoming profitable, experience gained worldwide from these developments indicates that the autonomous ANSPs may have the following advantages:

- a) ensure revenues generated through the use of air navigation resources are transparently reinvested in operating and developing the facilities;
- b) ensure that the users of air navigation services contribute directly to the upkeep and development of the facilities that they use (user pays principle);

- c) reduce the financing burden on governments;
- d) encourage the growth of a business culture (for example, closer control over revenues and expenses, quicker decisions and more responsive actions, and good governance), thereby increasing efficiency and improving the quality of services;
- e) enable access to private capital markets, which may become possible only with a change in organizational format because of public sector borrowing restrictions; and
- f) establish a clear separation of the regulatory and operational functions.

In light of these advantages, ICAO's policies on charges in Doc 9082, Section I, paragraph 5, recommend that, where it is economically viable and in the best interest of ANSPs and users, States consider establishing autonomous entities to operate their air navigation services.

2.15 In certain circumstances, assigning the operation and provision of air navigation services to an autonomous entity may not be a good approach to improving operating efficiency. For example, in a small State with limited aviation activity and where the operation of air navigation services is the dominant function of the civil aviation administration, little, if anything, may be gained by separating the air navigation services operation from the civil aviation administration and assigning it to an autonomous entity established exclusively for that purpose. In fact, costly duplication and rivalry between the two bodies could result in each of the two bodies carrying out functions previously performed more efficiently and at a lower cost by the civil aviation administration. This applies particularly to administrative costs and overheads.

Responsibility and financial independence

2.16 Before an autonomous ANSP becomes operational, its charter, or a document of a similar character, needs to be drawn up. The charter clearly describes the scope of the services and areas for which the autonomous ANSP is to be responsible. Because of different national practices, these tend to differ between ANSPs (see paragraphs 2.29 to 2.32).

2.17 Where air navigation services facilities already exist, the charter makes clear whether or not they are to become the property of the entity and, if so, what value is to be placed on these assets and whether or not a corresponding debt is to be charged to the entity. The charter also states how the autonomous ANSP is to be governed (see Part E — Corporate governance, paragraphs 2.33 to 2.36).

2.18 On the financial side, the charter needs to make clear that the autonomous ANSP will be empowered to retain the revenues it generates for the purpose of defraying air navigation services expenses and building up possible capital reserves. This means that the civil aviation administration would no longer have the financial benefit of the common use of premises and equipment, the costs of which were, at least in part, financed by revenues from the provision of air navigation services. Where it is foreseen to be unlikely that the autonomous ANSP will be profitable in the short term, the charter may need to specify how shortfalls in revenues are to be covered (such as through direct loans from and loan guarantees by the government), preferably by the drawing up of an annual financial plan to be agreed by the government (in this context, reference should also be made to the guidance material in Chapter 4).

2.19 If ANSPs lack the necessary financial autonomy, all the revenues they generate from charges (and commercial activities, if any) are deposited direct to the account of the national treasury, a ministry or the civil aviation administration, resulting in the ANSPs then having to apply for all funds required to cover air navigation services expenses. The ANSPs concerned nevertheless remain responsible for the levying and collection of charges on air traffic as well as for the promotion and development of commercial activities. However, such kinds of arrangements tend to significantly reduce the incentive of an ANSP management to develop new revenue sources or increase income from existing sources because it cannot make use of revenues it generates to defray expenses for which it is held responsible.

AUTONOMOUS CIVIL AVIATION AUTHORITY

2.20 Even in circumstances where the establishment of an autonomous ANSP may not be desirable (see paragraph 2.15), it may be often beneficial to establish an autonomous civil aviation authority to take over the functions, including the operation of air navigation services, previously performed by a civil aviation administration. The establishment of an autonomous civil aviation authority could permit the State to obtain benefits such as increased efficiency and a significant reduction of the contribution from public funds previously required for the civil aviation administration, which the civil aviation authority would replace.

2.21 As in the case of autonomous ANSPs, granting financial independence to the civil aviation authority would usually be an important prerequisite for realizing such benefits. However, experience in some States has shown that achieving complete financial autonomy remains a distant goal and that continuation of government financial support through grants sometimes remains necessary, at least in the early stages.

PART C — PRIVATE OWNERSHIP AND PARTICIPATION/INVOLVEMENT

2.22 In recent years, many government-owned autonomous ANSPs have been commercialized and are expected to operate as a financially independent business entity and to be as competitive, efficient and cost-effective as any other commercial business. There are, however, few cases where the ownership of such commercialized ANSPs has been transferred partly or fully to the private sector.

MOTIVATIONS

2.23 The opening of the door to private interests may be driven by diverse motives, ranging from improving operational efficiency and reducing costs to a more pragmatic desire to relieve the State of the responsibility for financing infrastructure development. The government may also expect to gain a one-time cash windfall from the sale of shares, as well as regular tax revenue from privatized ANSPs. Public financing of ANSPs is becoming more difficult because of budgetary constraints or other national spending priorities and pressure to move away from non-core public utilities. Governments also confront the growing expectations of the users in regard to the quality of service of ANSPs.

PRIVATIZATION

2.24 Privatization is the term most commonly used in connection with the changes taking place in the ownership and control of ANSPs. While the term privatization is often loosely interpreted as any move away from government ownership and control of ANSPs, ICAO's policies on charges define privatization as a transfer of full or majority ownership of air navigation facilities and services to the private sector. Privatization can be achieved through outright sale of shares to a strategic partner or an initial public offer (IPO) on the stock exchange. In the event that a State would wish to regain full or majority ownership, it would have to buy back the shares, with the risk that their price may be higher than the original sale price.

2.25 Key features of a privatized ANSP are likely to include the following:

- a) a board of directors for the corporation is appointed according to its charter;
- b) the privatized ANSP is self-financing, charges for its services, obtains funds from the capital market, applies commercial accounting standards and practices, and needs to achieve a financial return as a commercial entity; and

- c) the privatized ANSP is subject to normal business taxes.

2.26 While the privatized ANSP charges for its services and uses revenues from these charges to fund operating expenses and to finance capital expenditure, some prescribed operations (e.g. military) may be exempted from charges, and the costs for these prescribed services may be borne by government. Arrangements for the coordination of civil/military traffic, including common use of facilities and services, and associated financial issues would need to be formalized and agreed with the ministries concerned.

2.27 Privatization of an ANSP requires careful consideration of a number of factors listed in paragraph 2.2. These include an assessment of market conditions and the degree of competition to minimize the risk of ANSPs, on the one hand, engaging in anti-competitive practices or abusing their dominant position or, on the other hand, the possibility of being subject to market pressure by users. In addition, the objectives of change of ownership structures may need to be clearly defined through appropriate consultations with existing ANSP management, users and other interested parties. It is also noted that privatization should not in any way diminish the State's requirement to fulfil its international obligations, notably those contained in the Chicago Convention, its Annexes and in air services agreements, and to observe ICAO's policies on charges in Doc 9082.

PRIVATE PARTICIPATION AND PRIVATE INVOLVEMENT

2.28 Private participation and private involvement, which are synonyms, mean that the private sector has a role in the ownership, control and/or management of an ANSP while majority or ultimate ownership remains with the government. To date private participation/involvement in ANSPs is minimal, and there have been only a few cases of a public-private partnership (PPP). The advantage of a PPP is that the management skills and financial acumen of private businesses could create better value for money for taxpayers when proper cooperative arrangements between the public and private sectors are used.

PART D — ORGANIZATIONAL CHARACTERISTICS OF AIR NAVIGATION SERVICES PROVISION

2.29 Air navigation services have traditionally been classified into the following five major categories: air traffic management (ATM); communications, navigation and surveillance systems (CNS); meteorological services for air navigation (MET); search and rescue (SAR); and aeronautical information services (AIS),² details of which are described in Chapter 5. In most States, a single entity does not provide all or most of such air navigation services. Instead, several entities may be involved.

2.30 ATM is often provided by the civil aviation administration, although in a growing number of States autonomous entities have been assigned this function. In such instances, the same entity may also be responsible for providing certain CNS services. MET is usually provided by a separate meteorological entity, which in many States reports to another branch of government than does the civil aviation administration or the telecommunication services branch. While aeronautical SAR activities are often coordinated by the civil aviation administration, in most States the aircraft, vehicles, vessels and personnel utilized in the actual SAR operations are provided by the military, civil defence or other similar forces. AIS, on the other hand, tends to be provided by the civil aviation administration, although certain services may be provided by third parties on a commercial basis.

2.31 From an organizational viewpoint, it is important that where air navigation services costs are to be recovered, the State concerned should assign to one entity the duty for ensuring that the costs attributable to the provision of air navigation services by the different entities in the State all be included in the cost basis for any cost-

2. Under transition to aeronautical information management (AIM).

recovery mechanism. The absence of such an approach has had the effect of, for example, MET costs not being taken into account at all in some instances, thereby resulting in the States concerned not even partially recovering these costs. Also of importance is that the costs attributable to the provision of air navigation services be accurately and properly determined and that transparency be maintained in financial presentations.

2.32 As to the selection of the entity to collate the costs of the different air navigation services, the entity providing ATM does, apart from providing a major air navigation service, also possess the information required to identify the flights to be charged. It would, therefore, in most circumstances be best for that entity or branch of government to be assigned the collating function. With that would go the responsibility of ensuring that the revenues from charges be shared among the different entities providing air navigation services. Such sharing of revenues among the different entities concerned would normally be in proportion to the costs incurred by each in providing air navigation services. In the large majority of States this coordinating function would, in light of the above, best be assigned to the civil aviation administration.

PART E — CORPORATE GOVERNANCE

2.33 The change of ownership, control and/or management of an ANSP can have implications on its governance and performance. A number of recent studies and experiences indicate that commercialization of ANSPs have generally improved cost control, productivity through modernization, and financial viability, without compromising safety. The studies also indicate that commercialized ANSPs can take timely decisions and are more responsive to users' needs. In addition, there is a common observation among the studies that better performance is achieved as a result of good corporate governance. The term corporate governance refers to overseeing the running of a company or an entity by its management and its accountability to shareholders and other interested parties.

2.34 Corporate governance becomes even more important where the control and management of an ANSP is separated from the ownership and in situations where an ANSP is more dependent on external capital for the financing of its activities and investments. For example, a sound corporate governance system could provide effective assurance for all interested parties, including shareholders and creditors, that management acts in the best interest of the ANSP and uses funds in an efficient way, thereby making it easier to raise capital. Conversely, without good corporate governance, management may seek to maximize its own interests at the expense of those of other interested parties, and there may be less transparency in the use of available funds.

2.35 Corporate governance principles and codes have been developed worldwide. Some of the most influential guidelines are the *OECD Principles of Corporate Governance* (2004) by the Organization for Economic Co-operation and Development. The application of the OECD principles and the results of recent studies on the commercialization and privatization of ANSPs may serve as the basis for the establishment of the best practices needed to ensure good corporate governance of commercialized ANSPs. These include:

- a) clearly defined objectives and responsibilities as set out in a legislation or licence;
- b) an equitable treatment of shareholders and protection of shareholders' rights (where all or a part of the capital is held by private shareholders);
- c) an independent, professional supervisory board to provide overall direction to the management;
- d) empowered and accountable management to make timely decisions regarding finances, operations, technology, human resources, investments and services in line with corporate objectives and board directions;
- e) good relationship with all interested parties through consultation; and
- f) timely and accurate disclosure of information to enhance transparency.

2.36 The best practice of good corporate governance could equally apply to ANSPs fully owned and directly controlled by government because the performance of ANSPs is more related to good governance than to the ownership and control structure. In many instances, however, a State authority does have inherent limitations that must be overcome (for example, cumbersome approval and lengthy procurement processes, and competition with other State priorities for investments).

PART F — PROVISION OF CERTAIN AIR NAVIGATION SERVICES BY THIRD-PARTY OPERATORS

2.37 As noted in paragraph 2.4 above, States are responsible for ensuring compliance with the provisions of the Chicago Convention, its Annexes, and Standards and Recommended Practices (SARPs). With regard to airports and air navigation services, they alone remain responsible for the commitments they have assumed under Article 28 of the Convention, regardless of what entity or entities operate the airports or air navigation services concerned.

2.38 Over the past two decades, States have been assigning the operation of airports and air navigation services to autonomous, commercialized and even privatized entities that may have less awareness and knowledge of States' obligations under the Chicago Convention. Also, States are increasingly using multinational facilities and services to meet their commitments. In this respect, it should be noted that States are ultimately responsible for safety, security and economic oversight of commercialized/privatized airports and ANSPs (Doc 9082, Section I, paragraph 6).

2.39 The fundamental challenge is to ensure that commercialized/privatized ANSPs perform in line with recognized safety and performance requirements and that, where ANSPs outsource or subcontract certain services (e.g. satellite communication services) to third-party operators, these also deliver the agreed services as per recognized safety and performance requirements. The provision of air-ground satellite communication services by third-party operators presents a unique set of challenges, in particular with respect to the availability and continuity of such services:

- a) The supply chain for satellite communication services involves numerous providers (e.g. satellite operator, ground station operator, network providers). A State or an ANSP would typically enter into an agreement with one entity who acts as a re-seller of all services in the supply chain. The loss of one entity in the supply chain can disable the service.
- b) The volume of communications for air traffic services (ATS) is typically low compared to other communications traffic. In difficult economic times, a communications operator may consider the ATS business no longer viable and discontinue this activity to focus on the more profitable sectors of the communications business. This raises business continuity issues.
- c) Air-ground mobile satellite communication systems, being complex, use unique technology often custom-built by operators. These systems can therefore be difficult to maintain over the lifetime of the satellite service and may over time result in degraded service and restraints on expansion. In such situations, business continuity may again be jeopardized.
- d) States and ANSPs are also affected by the fact that the various air-ground satellite communication systems each use unique technology, which is not interoperable. Airspace users typically choose a system which meets their needs. Each system features different characteristics and hence service monitoring becomes more complex.

2.40 A service level agreement (SLA) template for possible use by States or ANSPs to ensure that third-party operators deliver the agreed services as per recognized safety and performance requirements is provided in Appendix 1.

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CHAPTER 3

International Cooperation

This chapter addresses the various forms of international cooperation existing in the air navigation services field.

Part A identifies the different forms of international cooperation.

Part B focuses on various aspects related to international operating agencies.

Part C deals with the scope, functions and financial aspects of joint charges collection agencies.

Part D discusses multinational facilities and services, including provisions to be addressed in an agreement covering their establishment.

Part E describes joint financing arrangements administered by ICAO.

Part F describes a practical case of political cooperation, the Single European Sky.

Part G considers organizational aspects in the context of major CNS/ATM components.

PART A — GENERAL

3.1 International cooperative ventures in the provision of air navigation services have normally proven to be highly cost-effective for provider States as well as users and in some instances constitute the only means for implementing costly facilities and services which offer capacity that exceeds the requirements of individual States. By cooperating in such facility or service provision, the States concerned are able to provide more efficient services and at lower cost than if they had to finance the facilities concerned themselves.

3.2 ICAO's policies on charges (Doc 9082, Section I, paragraph 8) encourage international cooperation through a regional approach in the provision and operation of air navigation services where this is beneficial for the providers and users concerned, and with a view to facilitating the efficient and cost-effective implementation of the ICAO *Global Air Traffic Management Operational Concept* (Doc 9854) on the basis of the guidance provided in the *Global Air Navigation Plan* (GANP, Doc 9750).

3.3 According to Assembly Resolution A37-15, Appendix W, States are expected to give consideration to cooperative efforts for introducing more efficient airspace management, in particular, in the upper airspace, taking into account the need for the cost-effective introduction and operation of communications, navigation and surveillance (CNS) and ATM systems. In this context Contracting States should consider, as necessary, establishing jointly a single air traffic services authority to be responsible for the provision of air traffic services within ATS airspace extending over the

territories of two or more States or over the high seas. Also, operating agencies are referred to in Assembly Resolutions A22-19 “Assistance and advice in the implementation of Regional Plans” and A16-10 “Economic, financial and joint support aspects of implementation”.

3.4 International cooperation may take different forms. In its simplest form a coordination and harmonization process is initiated as a subregional activity between a limited number of States. There are significant synergies to be created and savings to be made by coordinating the planning, implementation and operation of air navigation facilities and services across borders with neighbouring States. Examples of such subregional activities are Roberts FIR in Africa and Piarco FIR in the Eastern Caribbean. An example of a regional activity is the initiative to cooperate in search and rescue (SAR) services in Africa (see text box below). A more formal machinery for cooperation may be established as an international operating agency, a joint charges collection agency, a multinational facility/service, or an ICAO joint financing arrangement. These forms of cooperation are described in Parts B through E below.

REGIONAL COOPERATION IN SEARCH AND RESCUE

The concept of regionalized, cooperative service provision can, to a certain extent, compensate for the shortage of funds allocated to SAR systems in some States. Where there is a shortage of funds, the allocation of suitable local search units to life-saving tasks may not be possible. In such situations an infrastructure of trained personnel, appropriate accommodations, shared communication facilities and multilateral memoranda of agreement in place could facilitate search units volunteered from other places to be effectively and efficiently allocated by regional SAR coordinators. Such a base of human and material resources can be more easily established on a regional basis.

PART B — INTERNATIONAL OPERATING AGENCIES

SCOPE AND FUNCTIONS

3.5 An international operating agency in this context is a separate entity assigned the task of providing air navigation services, principally route facilities and services, within a defined area on behalf of two or more sovereign States. The services they provide are usually in the categories of ATS (ATM), COM (CNS), SAR (essentially rescue coordinating centres) and AIS, but can extend to MET as well. These agencies are also responsible for the operation of charges collection systems for services provided.

3.6 Examples of international operating agencies are the Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA) in Africa (which, in addition to air navigation services provision, participates in airport management), Corporación Centroamericana de Servicios de Navegación Aérea (COCESNA) in Central America, and the European Organisation for the Safety of Air Navigation (EUROCONTROL). A brief description of these three agencies follows.

AGENCE POUR LA SÉCURITÉ DE LA NAVIGATION AÉRIENNE EN AFRIQUE ET À MADAGASCAR (ASECNA)

ASECNA, a public entity with financial autonomy, founded in 1959, is operated by 18 States in Africa and France, which is also a member. Its mission, on their behalf, includes the provision and operation of air traffic control, meteorological services and communication facilities for en route and approach, in Member States, as well as aerodrome control and landing on the main airports listed in the Convention. The Agency may enter, under a separate individual contract, into agreement with each of these States for the management of its airports or the maintenance of any facility serving an aeronautical purpose. The Agency may also be authorized to establish special equipment programmes for any State, especially with regard to the operation of terminal nav aids, or any other tasks that could be entrusted to it.

The Agency is governed by a Ministerial Committee, composed of the ministers responsible for civil aviation in the signatory States, which defines general policy. It is administered by an Administrative Council, composed of one representative from each signatory State, assisted by a Director General. The Agency employs its own staff but it can also have staff from signatory States seconded to it. ASECNA headquarters are located in Dakar (Senegal).

In accordance with the provisions of Article 15 of the Chicago Convention, the Agency may not extend to any user, directly or indirectly, or in any form whatsoever, benefits not offered to other users availing themselves, under the same conditions, of the facilities under its management.

Methods of financing

The Agency is financed from its own operating income. It is authorized to levy charges to offset the financial obligations it assumes in the performance of the tasks entrusted to it and in return for services rendered to users. The Agency is also authorized to collect all income that the property under its management generates in the course of serving aeronautical purposes.

ADVANTAGES

3.7 Experience indicates that international operating agencies contribute, often significantly, to improved efficiency in the provision of facilities and services at a lower cost to both providers and users. Among the advantages offered are more efficient use of personnel, facilities and equipment, as well as savings in research and development, given the avoidance of duplication at the national level, and through achievement of economies of scale. This has special relevance for States with less advanced economies where trained personnel and financial resources are scarce and where aviation must compete with other sectors of the economy. Operating agencies levying route facility charges may usually be more successful in the collection of amounts due for overflights owing to the larger geographical areas usually covered by their activities. Moreover, since such agencies represent a number of States, they tend to be in a stronger negotiating position in their financial and commercial dealings and may therefore be able to secure more advantageous terms.

CORPORACIÓN CENTROAMERICANA DE SERVICIOS DE NAVEGACIÓN AÉREA (COCESNA)

COCESNA, founded in February 1960, has six Member States, namely Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. The Corporation is an integrated, international, Central American autonomous organization.

According to its Charter, the Corporation has exclusive rights to provide air traffic services, aeronautical telecommunications and radio navigation aids for international civil aviation in the territories of the contracting parties. In practice, however, it provides services in the upper airspace (above flight level 200) and cooperates only partially with contracting governments in the provision of air traffic services in the lower airspace. It may also provide to other States, through agreements, the above-mentioned services and aids specified in the ICAO regional air navigation plan. Furthermore, it may also provide services and radio aids of the type mentioned above that are not specified in the ICAO regional plan within the territories of the contracting parties, by means of contracts with public or private entities.

Methods of financing

In addition to working capital, the contracting parties also agree to acquire, when necessary, and concede the use and possession of, at no cost to the Corporation, certain equipment listed in the Charter, as well as to provide the land on which the equipment is situated, as well as all other property or furnishings directly related to the discharge of its functions. In order to maintain financial equilibrium and provide for the development and expansion of its aeronautical services, the Corporation is authorized to levy charges on facility users. By this means COCESNA is at present wholly financed from its own operating income.

ESTABLISHING THE AGENCY

3.8 The size and composition of an agency's membership, and hence its geographical scope of operation, will primarily depend on political, economic, demographic and geographic considerations. The scope of its activities will also be influenced by these factors and the extent to which new and improved facilities may be required in some States to serve present and future traffic.

ORGANIZATIONAL ARRANGEMENTS

3.9 The circumstances that lead to the creation of an international operating agency, as well as many other factors, will influence its structure. Since these will differ significantly from case to case, it is not practicable to prescribe any specific pattern of organizational arrangements for such agencies in general. Certain basic common features, however, have normally emerged. For example, the overall policies governing the agency's functions, operations and financial affairs, as well as decisions on fundamental matters such as capital investments and the appointment of key staff, are likely to be the responsibility of a board of management composed of representatives of the Member States. Similarly, the chief executive will usually be responsible to the board, which is ultimately responsible for the general administration of the agency. From the outset, sound and well-defined financial and economic policies and practices need to be established relating to cost-recovery and financial control, including accounting and budgeting procedures. Recruitment of agency personnel will also require careful consideration. Reference should also be made to the text on agreement(s) between States and related contractual aspects in Part D of this chapter.

EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION (EUROCONTROL)

EUROCONTROL, which currently numbers 39 Member States and the European Community (September 2011), is a civil-military organisation committed to building, together with its partners, a Single European Sky (SES) that will deliver the air traffic management performance required for the twenty-first century and beyond.

EUROCONTROL develops, coordinates and plans for implementation of short-, medium- and long-term pan-European air traffic management strategies and their associated action plans in a collective effort involving national authorities, air navigation services providers, civil and military airspace users, airports, industry, professional organizations and relevant European institutions.

EUROCONTROL's core activities span the entire range of gate-to-gate air navigation service operations — from strategic and tactical flow management to controller training; from regional control of airspace to development of leading-edge, safety-proofed technologies and procedures, and the collection of air navigation charges.

EUROCONTROL is actively involved in the support and the implementation of the SES. In particular, EUROCONTROL has been designated to be the Performance Review Body as well as the Network Manager of the SES. It is also a founding member of the SESAR joint undertaking.

The governing bodies of the Organisation are the General Assembly (Commission during the transitional period), and the Council (Provisional Council during the transitional period) assisted by an Agency led by the Director General. The Commission and the Council are composed of Member States' representatives, with voting strength weighted according to each State's annual contribution to the Organisation.

EUROCONTROL recruits its own staff and owns the buildings and equipment that it requires to carry out its functions. To avoid duplication, use is also made of Member States' national technical services and installations where possible.

Methods of financing

The Organisation is financed by contributions from its Member States, except for the costs of its route charges collection scheme, which are recovered from airspace users through a supplement included in the charges.

Collection of air navigation charges

The EUROCONTROL Central Route Charges Office (CRCO) operates a harmonized, regional en-route charges system on behalf of the Member States. It also calculates, bills and collects terminal air navigation charges on the basis of bilateral agreements (ten were in operation at 1 January 2010). Finally, it collects air navigation charges for some non-Member States, under bilateral agreements. The system contributes to the funding of the European air traffic management (ATM) system while at the same time facilitating consultations with airspace users.

PART C — JOINT CHARGES COLLECTION AGENCIES

SCOPE AND FUNCTIONS

3.10 Another effective but less encompassing means for States to benefit from international cooperation in their provision of air navigation services is to participate in the operation of a charges collection agency. This is because States individually operating route facilities and charging for the services rendered will be involved in considerable accounting work and may also encounter collection difficulties where there is a substantial volume of overflying traffic. In such circumstances, a group of adjoining States might benefit significantly from the formation of a joint charges collection agency. This agency would collect route air navigation services charges on behalf of all of the participating States, including those that are overflown. Since the majority of aircraft are likely to land in the territory of at least one of the participating States, this would tend to ease the collection of air navigation services charges. The agency would then transfer to each participating State the charges revenue collected on its behalf. Added to each charge levied for each participating State would be a small fee or percentage to cover the State's share of the agency's costs. A joint charges collection agency should also benefit the aircraft operators because the collection costs attributable to each participating State should be lower than the State would otherwise have to face and need to recover from the users. There will also be noticeable savings for users in terms of administrative costs by receiving one invoice and in one currency compared to separate invoices from all the States involved. Another factor to be considered is the additional prospect of further economies resulting from the employment of better trained staff and improved procedures.

3.11 In view of their potential benefits, regional collection agencies may have particular appeal to States wishing to carry out technical functions (i.e. air traffic control) themselves. Such agencies are also much less complex to establish in terms of equipment, staff and other requirements than an international operating agency. As to personnel, the agency would be staffed by nationals from States contracting to the agency thus allowing them to develop new expertise and employment.

3.12 The need for States to recover the costs of their air navigation services has increased the emphasis on the efficient and effective billing and collection of air navigation services charges and has led to growing cooperation or joint ventures in their billing and collection efforts. Also, the increased usage of multinational facilities and services, notably ATM and CNS systems components, has given added impetus to joint efforts in cost-recovery. The employment of collection service agencies should be predicated on greater efficiency and lower cost than the collection of charges by individual States or ANSPs and that the cost of the collection services should be transparent to air navigation services users. It is recommended in ICAO's policies on charges (Doc 9082, Section I, paragraph 11) that States or their delegated service providers consider participating in joint charges collection when it is advantageous.

FINANCING ASPECTS

3.13 The costs involved for participating States should be minimal. In fact, start-up funds required for the acquisition of premises and data-processing and other necessary equipment as well as pre-operational training, coordination and administration should normally not pose a major problem since they could be obtained through a financing institution, including commercial banks. The loan would be repaid over a few years, with instalments and interest being included in the agency cost element that would be added to and recovered through the route air navigation services charges billed and collected by the agency on behalf of Contracting States.

IMPORTANCE OF STATES CONTROLLING COLLECTION OF THEIR CHARGES

3.14 Considering that route air navigation services charges are an essential source of revenue, it is important that the States concerned remain fully in control of the charges collection function and be in a position to immediately

dispose of the funds collected as they deem necessary. Such control is exercised not only when a State bills and collects the charges itself but also when it joins forces with other States to establish a collection agency serving all the participating States. Also to be considered is that some of the data collected are a valuable asset, to be treated as confidential and which only the States concerned should dispose of or have control over. Similarly, confidentiality should apply to amounts billed to individual operators or amounts outstanding.

3.15 The situation may arise where a State would consider contracting the collection of route charges to an agent or organization that is not government-controlled or operated. In such circumstances the State would need first to study carefully the terms under which the collection service is to be provided and to insist on identification and description of the costs of the services for which it is being charged. This would become even more relevant in cases where the collection scheme would be expanded to cover the collection of airport charges as well.

3.16 It is also advisable that the administrative fee for collection be included in the charges. The State should ensure that the contract with the agent stipulates that the agent's fees and costs not be deducted from the charge collected on behalf of the State but added to each charge levied on the users (aircraft operators concerned). This ensures that the State receives the revenue from charges collected without any deduction, instead of an amount reduced by the agent's fees and costs, which cannot be quantified in advance and which thereby impedes proper financial planning and budgeting by the State. The collecting agent or organization is reimbursed not by the State concerned, but by the users who are the essential beneficiaries of the air navigation services being charged for. This is also the practice recommended with regard to covering the costs of joint charges collection agencies and is in fact the practice applied in the case of existing State-owned and controlled joint collection activities. The costs attributable should be transparent.

OPTIONS FOR STATES

3.17 The most prominent examples of charges collection services are those operated by EUROCONTROL, the United Kingdom (for traffic in the North Atlantic) and the International Air Transport Association (IATA). EUROCONTROL operates a separately organized and financed collection agency or office, which serves both EUROCONTROL and other States. Similarly, the office in the United Kingdom that collects route charges levied by the United Kingdom has been contracted to collect the route charges levied by Denmark and Iceland for the services they provide on the North Atlantic under the ICAO Joint Financing Agreements, as well as the charges levied to recover the costs of the Height Monitoring System Programme operated jointly by six States and administered by ICAO. IATA collects en-route charges on behalf of around thirty, mainly developing, States through the IATA Enhancement and Financing Services.

3.18 In the case of the EUROCONTROL and United Kingdom schemes, on the basis of information identifying each flight and provided to the collection office by the Contracting State concerned, the collection office calculates the applicable charges levied by that State and bills the aircraft operators involved, collects the payments and then transfers the amounts received, less an administrative fee, to the Contracting State. Under the IATA scheme, the State (or the ANSP) calculates the en-route charges to be levied on each flight and forwards the information to IATA.

3.19 Two other international governmental operating agencies, ASECNA in Africa and COCESNA in Central America, levy and collect charges to recover the costs of the services they provide on behalf of their Member States. Unlike EUROCONTROL, however, they do not at present operate a charges collection service or office for their Member (or other) States for recovery of costs incurred by those States.

3.20 Without establishing or joining a charges collection service, States may still cooperate in the collection of air navigation services charges. An example of this is the International Organization Information Coordinating Council on Air Navigation Charges (IKSANO), which was established by air navigation services providers in eight States in the European Region in 2000. Other States have since joined IKSANO as members or participate with observer status. The objectives of this cooperation are:

- a) to protect the interests of the ANSPs and those users who duly pay the air navigation services charges levied; and
- b) through improved transparency, to draw attention to those users who fail to pay the charges due.

To achieve these objectives, Member States have pooled and expanded their databases to include a general database on aircraft operators, a specific database on debtors, and an archive of users that have gone bankrupt or ceased to operate for other reasons. IKSANO has advised the bad debtors, on behalf of all IKSANO Members, of the information it possesses and that their debt situation is now closely monitored in all the States concerned, which has made it more difficult for these users to change their routing to avoid payment of charges, or to overfly without payment of charges being secured in advance. Consequently, IKSANO can serve as a model for States seeking to acquire more data about the users of their air navigation services, including their financial situation and creditworthiness.

CURRENCY ASPECTS

3.21 With a joint collection agency the funds collected can be transferred immediately to an account of the participating State, which it can hold either at a bank (or another similar financial institution) in its own territory or in any other State it may designate. This collection approach may also ease access by the participating State to convertible currency. Although it is recommended in Doc 9082, Section I, paragraph 24 i), that under normal circumstances user charges should be expressed and payable in the local currency of the State concerned, it is at the same time recognized that when route charges are billed on a regional basis (i.e. on behalf of several States or by a jointly operated agency), it may be advantageous to both users and providers to denominate and pay charges in a single convertible currency (Doc 9082, Section I, paragraph 24 iv), refers).

PART D — MULTINATIONAL FACILITIES AND SERVICES

BACKGROUND

3.22 Over the years, States have provided one another with various services such as air traffic control, communications and meteorological information. As regards charging for these services, States have usually not charged one another because the service flow has essentially been bilateral and generally considered to be in balance. Even where there were imbalances, the effort involved in determining the cost share to be charged to a neighbouring State was considered disproportionate to the costs involved. Instead, the provider State concerned would normally include that cost share in its cost base for route facility or other similar charges levied on the users (aircraft operators) flying within the airspace for which it is responsible.

3.23 This approach continues to be the general practice, but technological developments and the high levels of investments involved are bringing about a fundamental change reflected in a growing interest in and need for multinational facilities and services. These are being introduced where certain functions that States now carry out themselves can be provided more efficiently and at a lower cost by a single multinational unit operated by one or several States. Indeed, in certain situations, such as in the implementation of the communications, navigation and surveillance/air traffic management (CNS/ATM) systems, a multinational facility may largely be the only feasible alternative. With regard to multinational facilities and services in general, it remains important, however, to avoid the duplication of services and associated higher charges on users that would occur if a State participated in the provision of a multinational service while also duplicating that service at the national level.

DEFINITION AND EXAMPLES

3.24 A multinational ICAO air navigation facility/service can be defined as a facility or service included in an ICAO regional air navigation plan for the purpose of serving international air navigation in airspace extending beyond the airspace serviced by a single State in accordance with that regional air navigation plan.

3.25 CNS/ATM systems or individual elements of these systems are probably the most significant multinational facilities or services the aviation community will have access to in the immediate future. This applies to both the service potential of the systems and the costs involved. The satellite-based ground-ground data and voice communications networks (VSAT) in Southern Africa, South America, Central and Eastern Caribbean and Eastern Europe are practical examples in that respect. Another example is the European Geostationary Navigation Overlay System (EGNOS), which is a satellite-based augmentation system (SBAS) for GNSS providing integrity and differential correction through geostationary satellites.

EQUITY ASPECTS

3.26 Equity in the sharing of the costs of a multinational facility or service and in the recovery of the costs through user charges is important. A multinational facility operated by one State, but providing services used by two or more States at costs considerably over and above those that would be incurred solely to meet the requirements of the State operating that facility, may give rise to inequity in two areas if some form of cost sharing is not arranged. First, to the State providing and operating the facility, there is inequity from having to defray capital and running costs in excess of those that State would otherwise incur to meet its own requirements. Second, where that State would seek to recover its costs through user charges, users within the airspace for which that State is responsible would be asked to pay for costs of services not properly attributable to them. These users would, in effect, be required to subsidize services provided for other traffic by another State. This would be contrary to the principle expressed in ICAO's policies on charges (Doc 9082, Section III, paragraph 5) that the allocation of the costs of air navigation services among aeronautical users should be carried out in a manner equitable to all users.

3.27 It should be added that any State sharing in the costs of operating a multinational air navigation facility or service can include the relevant costs involved in the cost base for charges, such as air navigation services charges, that it levies on the final users of these services, namely the aircraft operators. The right of any Contracting State to proceed in this manner is confirmed in Article 15 of the Chicago Convention, with supporting policy guidance provided in ICAO's policies on charges in Doc 9082.

IMPLICATIONS FOR STATES AND
ICAO TECHNICAL PLANNING BODIES

3.28 Because of the financial and managerial implications involved, the approach by technical planning bodies to the possible implementation of multinational facilities and services may be expected to differ from that applied to facilities or services to be implemented by a single State. Regarding the latter, technical planning bodies essentially focus on the technical aspects of the facilities and services the State concerned must implement to meet its obligations under the respective regional air navigation plan, to serve international civil traffic within the airspace for which it alone is responsible. Provided these facilities or services meet international standards, aspects relating to their financing and management remain an internal matter for that State.

3.29 A different approach is required in the case of multinational facilities and services because the primary reason for their establishment is to enable two or more States to carry out the services each has accepted responsibility for under the regional plan more efficiently and in a more cost-effective manner than each of them could achieve on their own. Consequently it is to be expected that the States concerned will wish to evaluate, at least in broad terms, the financial aspects of such facilities before agreeing to their incorporation in the regional plan and before committing themselves to using them.

3.30 For this reason, basic financial implications will need to be considered by technical planning groups at the stage in their deliberations when it is believed that the best or even only solution to a problem involves recommending the establishment of a multinational facility or service. To leave aside basic financial implications until after these groups have finalized their recommendations could lead to delays if one or more of the States expected to participate in the operation of the multinational facility concerned raises objections (for example, to the financial share it would be expected to pay for). Such delays in implementing technical solutions while new financial solutions acceptable to all the States involved are being sought could possibly compromise safety or efficiency in the area concerned.

GUIDANCE MATERIAL

3.31 General guidelines on the establishment and provision of a multinational ICAO air navigation facility/service were first developed and endorsed by the European Air Navigation Planning Group (EANPG) in 1986 and subsequently incorporated into the introduction to the European Regional Air Navigation Plan. The ICAO Council approved in 1995 that guidelines on multinational facilities and services should be incorporated into the introduction to all regional air navigation plans. The reason was that such guidelines were considered to be particularly relevant in the context of implementing various components of CNS/ATM systems. The guidelines have now also been included in the regional plans for the Middle East Region, Africa-Indian Ocean Region, Caribbean and South American Regions and Asia and Pacific Regions. (In the regional plans for the Caribbean and South American Regions, Asia and Pacific Regions and in the revised regional plan for the European Region, the guidelines have been incorporated into Volume II, FASID.)

3.32 The guidelines in the various regional air navigation plans are similar and include, after the introduction, a definition of a multinational facility or service and information concerning the development and processing of a proposal for a multinational facility or service. Following that are detailed guidelines on the financial, managerial and other contractual aspects that should normally be considered in respect of the operation of a potential multinational facility or service, including the basic provisions that would need to be considered for inclusion in an agreement between the States participating in the establishment and operation of a multinational facility or service. While reference should be made to the European Regional Air Navigation Plan, Volume II, FASID (Doc 7754, paragraphs 4 to 59 refer) for a complete description of these particular guidelines, relevant portions addressing issues related to the agreement, as well as an outline of the basic provisions involved, are reproduced in the following paragraphs.

AGREEMENT

3.33 The participation of States in the provision of a multinational facility/service is based on the assumption that any State, having supported and agreed to the implementation of such a facility/service and making use of it, should also shoulder its share of the costs involved. Having done this, participating States would need to formalize, in an agreement, the terms under which the multinational facility/service is to be provided. A primary aim of the agreement should be to ensure that the costs involved are shared among participating States in a fair and equitable manner.

3.34 An agreement covering the development, implementation, operation and maintenance of a multinational facility/service could either take the form of a formal international treaty or an “administrative agreement”. Both forms establish an international obligation but a treaty requires the signature of the head of State or government and will also require the ratification or approval of the national legislative assembly, which, as a rule, is a time-consuming process. An “administrative agreement”, on the other hand, is at a lower level of requirement in respect of formalities and procedures than a treaty, can be signed by a minister or director of civil aviation or some other authorized person, and can be concluded by an exchange of letters or notes.

3.35 It is recommended that, whenever possible, the agreement be established in the form of an “administrative agreement” rather than a formal international treaty because this would allow the agreement to come into force with