A32-WP/49
EX/18
3/7/98

WORKING PAPER

INTERNATIONAL CIVIL AVIATION ORGANIZATION

# ASSEMBLY — 32ND SESSION

## EXECUTIVE COMMITTEE

**Agenda Item 20: Financial and organizational aspects of the provision of air navigation services**

# REPORT ON FINANCIAL AND ORGANIZATIONAL ASPECTS OF THE PROVISION OF AIR NAVIGATION SERVICES

**SUMMARY**

This paper addresses action required at the national and international levels aimed at improving the financial situation and efficiency in the provision and operation of air navigation services. Proposed action by the Assembly is at paragraph 7.

**REFERENCES**

A32-WP/53, Report by the Council on Impact of Civil Aviation on States' Economies
A32-WP/50, Report by the Council on a proposal for an International Aeronautical Fund
Doc 7300/7, *Convention on International Civil Aviation*
Doc 9082/5, *Statements by the Council to Contracting States on Charges for Airports and Air Navigation Services*

## 1. INTRODUCTION

1.1 The financial situation of the provision of air navigation services world-wide is showing steady improvement with recovery of reported costs in a rapidly growing number of States. However, the lack of identification of all costs attributable to the provision of air navigation remains an obstacle to full cost recovery in a large number of States, and so does in many instances low volume of traffic. Route air navigation services charges (the bulk of air navigation services charges) accounted in 1996 for around 2.8 per cent of total scheduled airline operating expenses. Although this represents an increase of over one percentage point since 1986 as providers make increased efforts to cover their costs, these charges are not in relative terms a major cost item for air carriers, which continue to be provided with air navigation services below costs in many States.

1.2 Another pertinent issue is that the extensive lack of implementation or inadequate implementation and operation of air navigation services in many parts of the world has been shown to be caused not so much by technical as financial and organizational factors. Much can be done, however to remedy the situation both with regard to the organization of the provision of air navigation services, including the application of joint ventures, as well as with regard to financial control and cost recovery mechanisms. This was reconfirmed and emphasized most recently by for example the World-wide CNS/ATM Systems Implementation Conference, in Rio de Janeiro in May this year, which adopted several recommendations addressing action by States and ICAO in this area.

1.3 Also of significance is the development by ICAO earlier this year of a draft comprehensive action plan on shortcomings in the air navigation field. The plan which is to form part of the Global Aviation Safety Plan (GASP, described in A32-WP/58) categorizes activities to remedy shortcomings and deficiencies into four basic areas. Three are technical in nature but the fourth focuses on financial and organizational corrective actions by States and ICAO, including improving financial control and cost recovery procedures as well as organizational structures at the national level, and the application of co-operative approaches by States in air navigation services provision.

1.4 Finally, the decision of the Council to establish a universal safety oversight audit programme (see A32-WP/61) has significant financial and organizational as well as technical and human resource implications, both for States and for ICAO.

## 2. ICAO'S MANDATE

2.1 The *Chicago Convention* envisages in Chapter XV the possibility of ICAO pursuing an active role in the provision of facilities and services required for the safe, regular, efficient and economic operation of air navigation services. Thus Article 69 *inter alia* calls on the Council to seek remedies, in consultation with the State concerned and other States affected, for identified shortcomings in the air navigation field, and Article 70 refers to arrangements between the State directly concerned and the Council, including financial arrangements, for redressing deficiencies. Article 71 allows for the Council, if a State so requests, to provide, operate and administer any or all of the airports and other air navigation facilities required for international civil aviation and specify charges for their use, while Article 73 envisages that subject to the funds made available by the Assembly the Council may make current expenditures for the purposes of Chapter XV from the general funds of the Organization.

2.2 At present action by the Organization pursuant to Chapter XV is essentially limited to the administration of the Danish and Icelandic Joint Financing Agreements (see paragraphs 4.3.4 to 4.3.5 below).

## 3. BASIC PREREQUISITES FOR FINANCIAL AND OPERATIONAL EFFICIENCY

3.1 The following are all important prerequisites for obtaining financing for and successful cost recovery of air navigation services:

a) recognition of international cost recovery policy for air navigation services;

b) existence of an effective cost and revenue accounting system;

c) a sound methodology for determining the cost basis for charges; and

d) an effective mechanism for the collection of charges.

Efficacy and transparency would be substantially enhanced if, in line with ICAO cost recovery policy, revenues from air navigation (and airport) services charges are applied solely towards defraying the costs of these facilities and services.

3.2 Further, in order to facilitate the obtaining of financing for significant civil aviation projects, these should be the subject of cost-benefit studies and developed into business cases. The provision of most air navigation services, and particularly those provided for under the ICAO Regional Air Navigation Plan(s) are generally cost-beneficial for aviation users and providers combined and, with sound management and cost recovery, should be economically viable in most instances where there is adequate traffic volume. Where they are not, it is important to assess accurately and to minimize the subsidy required in order that it can be measured against the public utility benefits. Where required subsidies for civil aviation can generally be justified because of the economic benefits that civil aviation brings to States (see A32-WP/53 under Agenda Item 31, in which the Council reports on the impact of civil aviation on States' economies).

## 4. ORGANIZATIONAL CONSIDERATIONS

### 4.1 Autonomy at the national level

4.1.1 The meeting of the above prerequisites will be considerably facilitated where air navigation services are provided by means of an organizational structure ensuring financial and operational autonomy. The trend towards such autonomy has been a principal factor in the improvement over recent years in the financial situation of air navigation services (and airports).

4.1.2 An independent entity or body may be established for the purpose of operating certain facilities and providing specific services, with operational and financial freedom to carry out its functions. Autonomy can take many forms and does not necessarily mean privatization (although privatization is one form of autonomy) since ownership can rest in public or private hands or a mixture of both. A single autonomous entity may operate both airports and air navigation services and that entity may be in the form of a civil aviation authority. Regardless of the organizational form under which air navigation services are provided, 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.

4.1.3 The benefits that normally accrue from autonomy are those associated with the introduction of corporate or commercial-type management as opposed to direct government administration and usually result in improved operational efficiency and managerial control. Particularly important in the context of CNS/ATM systems financing is the improved control autonomy provides over revenue flows both in terms of their generation as well as in their application towards servicing debt obligations such as, for example, loans taken out to finance CNS/ATM systems implementation.

### 4.2 International co-operative ventures

*General*

4.2.1 International co-operative ventures in the provision of air navigation services have normally proven to be highly cost-effective for provider States and the users served alike, 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 co-operating in such facility or service provision the States concerned are able to provide more efficient services and at lower cost than if they were to finance the facilities concerned themselves. Major CNS/ATM systems components are typical of such facilities and services where international co-operation is essential.

### 4.3 International operating agencies

4.3.1 An international operating agency 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 such an agency provides are usually in the categories of air traffic services, aeronautical telecommunication, search and rescue (essentially rescue co-ordinating centres) and aeronautical information services, but can extend to meteorological services for air navigation as well. These agencies are also responsible for the operation of charges collection systems for the services provided. Examples of international operating agencies are ASECNA in Africa (which operates airports as well as air navigation services), COCESNA in Central America and EUROCONTROL in Europe.

*Joint charges collection agencies*

4.3.2 Another effective, if less encompassing, means for States to benefit from co-operation in their provision of air navigation services would be to participate in the operation of a multinational charges collection agency. This is because States individually operating route facilities and charging for the services rendered are involved in considerable accounting work, and may also encounter collection difficulties where there is a substantial volume of overflying traffic. For such an agency to be cost-effective several States would need to be involved. Separate agencies could be established in different regions. Considering that route air navigation services charges are an essential source of revenues, it is important that the States themselves singly or collectively remain fully in control of the charges collection function.

*Multinational facilities and services*

4.3.3 A multinational ICAO navigation facility/service is essentially 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. Elements of the satellite communications systems required to implement the CNS/ATM concept operated for groups of States represent examples of prospective multinational air navigation facilities/ services while an earlier global example is the world area forecast system (WAFS).

*Joint financing-type arrangements*

4.3.4 The basis for the joint financing concept is that certain air navigation facilities and services may be too costly for a State to provide and operate alone for the benefit of international civil aviation at large. The two Agreements presently in effect cover the operation and financing of facilities and services provided by Denmark and Iceland for civil aircraft flying across the North Atlantic, north of the 45°N latitude. Financial responsibility is assumed by a group of 23 States whose Governments contract to the relevant Agreements, including the two provider States. The responsibility for the administration of the Agreements rests with the ICAO Council and the Secretary General, on behalf of the Contracting Governments. The cost of the provision of services, including administration by ICAO, is recovered primarily from user charges.

4.3.5 The joint financing concept used for the Danish and Icelandic agreements has also been adopted for the administration by ICAO of a height monitoring systems programme operated jointly by six States providing air navigation services on the North Atlantic. As another example of a joint financing-type arrangement, ICAO has, on request of the governments concerned, developed and administers the Satellite Distribution System (SADIS) Cost Allocation and Recovery (SCAR) scheme. ICAO's administration of all the arrangements concerned has proven most successful and cost-effective from the viewpoint of the contracting governments involved.

## 5. FINANCIAL ASPECTS

### 5.1 Availability of financial data essential for cost recovery and infrastructure financing

5.1.1 A major impediment to successful cost recovery for air navigation services in a large number of States is the inability of the accounting systems employed by entities providing major air navigation services to identify the various costs attributable to the provision of these services. Compounding this problem is that the three major components of air navigation services, that is air traffic services, telecommunications services, and meteorological services for air navigation, are usually provided by two or three different entities which to a varying extent carry out other functions unrelated to the provision of air navigation services. There is consequently a widespread need for the adoption of accounting systems that provide the basic data needed for effective cost recovery of air navigation services.

5.1.2 When financing for air navigation services infrastructure is being sought it is important to be able to demonstrate that the providers of air navigation services in the State concerned employ efficient and effective accounting systems permitting the identification and inclusion of all relevant costs in the cost basis for air navigation services charges, and that they possess the ability to draw up a financing plan. This is particularly relevant where prospective sources of financing are commercial banks or other commercial financial institutions, which place emphasis on evidence of sound financial management so as to be provided with added assurance that a loan granted by them can be serviced and repaid by the recipient.

### 5.2 Sources of financing and financing mechanisms

5.2.1 Funding for air navigation services generally originate from the following sources (separately or in combination):

a) contributions from government (national or foreign);

b) commercial sources (debt financing);

c) accumulated excess of revenues over costs (profits);

d) bonds;

e) equity financing (share capital); and

f) leasing.

In the light of increasing competing requirements for financing and difficulties faced in many States to obtain financing for civil aviation, innovative means are being sought. One concept which is being studied within ICAO is an international aeronautical fund, on which the Council reports separately in A32-WP/50.

5.3 **International cost recovery policy**

5.3.1 Whatever means of financing are employed, it is important that the principles of equity flowing from Article 15 of the *Chicago Convention* are not undermined. Article 15 sets out a few basic principles applicable in the context of airport and air navigation services charges (no discrimination in charges between aircraft from ICAO Contracting States; and no charge shall be levied solely for the right to overfly, enter or exit airspace of a State). Additional and more detailed policy guidance is provided in the *Statements by the Council to Contracting States on Charges for Airports and Air Navigation Services* (Doc 9082/5), including for example, that charges should be based on the full costs of service provision, only facilities and services provided for and implemented under the regional air navigation plans should be charged for, charges can be levied for services provided outside the territory of the provider State, and consultation with users should take place regarding new or revised charges

## 6. FUTURE WORK BY ICAO

6.1 The nature of the provision of air navigation services is undergoing fundamental changes. Growing emphasis is being placed by States on the financial self-sufficiency of their air navigation services, *inter alia* to reduce the burden on government budgets, and costly high capacity technology is available for implementation capable of serving the requirements of several States much more efficiently and at a lower cost than is possible for each of them alone using current technology. Most important though is that all these developments have the potential to improve aviation safety. Also significant is how commercial financial institutions have become more involved in the financing of various air navigation services investments. These institutions are calling for financial management and cost recovery mechanisms of a higher order than currently exists in many areas. This again calls for more efforts being aimed at implementation of guidance in that area, including that developed by ICAO, and other assistance from the organization. From all these developments it may be concluded that considerable input is required at the national as well as international levels to improve the organization and financial management of air navigation services.

6.2 Moreover, there is an increasingly multinational compass in the provision of air navigation services (notably with regard to CNS/ATM), in safety (where an accident in one part of the world may well involve passengers from another part, aircraft from somewhere else, and engines or other parts from yet elsewhere) and in associated liability. Further, it would be consistent with the decision of ICAO to establish a universal safety oversight audit programme to assist where required in remedying shortcomings and deficiencies identified in the audit process. There is a need for greater parallelism between efforts in the technical field and those of a financial and organizational nature, by States, by the international aviation community in general and by ICAO in particular.

6.3 Strategic Objective G of ICAO's Strategic Action Plan is to "Assist in the mobilization of human, technical and financial resources for civil aviation facilities and services" and under this Strategic Objective the Council has identified as an issue to be addressed "Evaluation and fostering of new avenues to assist States to discharge their responsibilities vis-a-vis the Chicago Convention". In respect of financial and organizational aspects of the provision of air navigation services the Council intends in general terms to pursue more actively its mandate under Chapter XV of the Chicago Convention (see paragraph 2.1 above), and more specifically to:

a) promote the basic prerequisites for financial and operational efficiency, organizational considerations and financial aspects described in paragraphs 3 through 5 above;

b) complete evaluation and development of a proposal for an international aeronautical fund (see A32-WP/50);

c) make better known the expertise ICAO possesses and the neutral advice and services it can provide with regard to the administration of international co-operative cost recovery schemes for air navigation services in general;

d) upon request, assist States in establishing joint charges collection agencies and in the development of international co-operative ventures to provide air navigation services;

e) upon request, assist States in their preparation and negotiation of loans to finance air navigation services infrastructure;

f) provide more routine assessment of economic aspects during the development of technical requirements for air navigation facility certification or operation, notably through the development of cost-benefit and business cases in support of the regional planning process; and

g) continue to promote awareness and provide guidance on the economic benefits of civil aviation for the economies of States;

An important aspect of this approach which the Council intends to explore fully is that, consistent with the *Statements by the Council to Contracting States on Charges for Airports and Air Navigation Services* and illustrated through the administration of the Joint Financing Agreements, the cost of ICAO assistance in cost recovery, financing and other aspects of financial management of air navigation services, including the preparation for and negotiation of loans to finance air navigation services infrastructure, may be recovered *inter alia* through air navigation services charges. ICAO will also continue to liaise closely with other governmental and non-governmental organizations involved in similar activities (for example, with IATA as regards cost recovery and charges collection).

6.4 The policy and support which ICAO provides on financial and organizational aspects of the provision of both airport and air navigation services will be an important component of the *Conference on Airport and Air Navigation Services* which the Council is planning to convene in the first half of the year 2000. This Conference will cover basic economic regulatory principles and obligations, with an emphasis on commercialization and privatization, including an overview of the Council Statements. The question of funding airport and air navigation services world-wide will be given particular attention.

## 7. ACTION BY THE ASSEMBLY

7.1 The Assembly is invited to endorse the Council's plans for future work on financial and organizational aspects of the provision of air navigation services and provide further guidance as required.

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