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CONFERENCE ON THE ECONOMICS OF AIRPORTS AND AIR NAVIGATION SERVICES

Montréal, 15 to 20 September 2008

Agenda Item 3: Specific issues related to air navigation services economics and management
Agenda Item 3.3: Cost allocation and charging systems

THE ROLE OF AIRCRAFT WEIGHT IN CHARGING FORMULAE

(Presented by the Secretariat)

SUMMARY

This paper discusses the rationale behind the practice of including aircraft weight in air navigation services charging formulae, and reviews the relevance of the current text in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082). The views regarding the role of aircraft weight in charging formulae vary amongst States. The paper calls on the Conference to consider reaching a common position on this contentious issue.

Action by the conference is in paragraph 3.

1. INTRODUCTION

1.1 Existing en-route charging schemes are generally based on a formula that includes aircraft weight and distance flown, and most approach/aerodrome control charges do also include the weight factor. The question of the relevance of aircraft weight in the charging formulae, particularly in congested or complex airspace, has been raised at several occasions. Some States feel that the current wording in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082) is rather prescriptive, while others think that there is sufficient flexibility to structure charges according to particular circumstances.

1.2 This paper discusses the rationale behind the practice of including aircraft weight in charging formulae for air navigation services, examines the relevance of the current text in Doc 9082, and describes the diverging views noted in paragraph 1.1.

2. DISCUSSION

2.1 Aircraft weight is considered to be a valid charging parameter, as it represents the value of service to users. The value of service received increases as aircraft payload capacity increases, and

since aircraft weight generally has an approximate relationship to payload capacity, it can provide a good measure for value of service. The use of aircraft weight in charging formulae may, therefore, distribute the costs of air navigation services between users according to the value of service that they receive.

2.2 However, the costs for the provision of air navigation services are not directly related to the weight of the aircraft. For example, managing a large aircraft in the airspace is not more complex than managing a lighter aircraft operating in the same airspace[1]. With aircraft weight included in charging formulae, heavy aircraft pay more for air navigation services than lighter aircraft. This implies that the charges paid by heavy aircraft cross-subsidize the charges paid by lighter aircraft.

2.3 Paragraphs 44 and 45 of Doc 9082, therefore, try to strike a balance between the cost of service and the value of service by providing guidance on the weight envelope (i.e. the extent to which aircraft weight may be taken into account). In summary, the current policies note that:

a) approach/aerodrome control charges "could" take aircraft weight into account but less than in direct proportion to aircraft weight (paragraph 44 refers); and

b) en-route charges "should" take aircraft weight into account but less than proportional to the relative productive capacity of the aircraft, i.e. aircraft seating capacity, which is generally less than proportional to aircraft weight (paragraph 45 refers).

2.4 Regarding the "could" versus "should" difference noted in paragraph 2.3, a possible explanation may be found in the fact that approach/aerodrome control charges had originally been under the airport section of Doc 9082. The general policy on airport charges is – and has always been – that the landing charge scale "should" be directly proportional to aircraft weight. This included approach/aerodrome control services until the second edition of Doc 9082, published in 1981. At that time, charging for approach/aerodrome control services, while still in the airport section of Doc 9082, was broken out and given its own sub-paragraph immediately following the sub-paragraph on landing charges. The main intention of the separate paragraph for approach/aerodrome control charges was to recognize that this component of airport-related charges should not take aircraft weight into account to the same extent as the landing charges, rather than to signal through the word "could" that weight should not normally be taken into account.

2.5 States are divided regarding the "could" versus "should" difference. Some are seeking a revision of paragraph 45 of Doc 9082 as, in their opinion, the current text is too prescriptive and there should be more flexibility in the wording regarding aircraft weight; consequently, they believe that the terminology should be harmonized by replacing "should" with "could" in paragraph 45 for en-route charges.

2.6 Some other States are of the opinion that paragraph 46 of Doc 9082, which outlines several exceptions to the use of both weight and distance factors for en-route charges, already provides significant flexibility for the States to structure charges according to their particular circumstances, and that variations to traditional charging schemes to deal with exceptional circumstances, such as congestion and peak-period traffic, can be accommodated under the flexibility given in the existing policies, including the reduction or even the elimination of the weight and distance factors.

[1] There may be a minor issue in relation to wake vortices, in that larger aircraft will require greater separation than smaller aircraft. This may be especially true when managing flights in a complex airspace where there is a large number of ascending and descending flights, and where air navigation services are provided at airports that are operating at close to full capacity.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to consider reaching a consensus on the role of aircraft weight for air navigation services charging purposes, in particular:

a) whether the wording in paragraphs 44, 45 and 46 of Doc 9082 on aircraft weight is appropriate; or

b) whether the terminology in paragraphs 44, 45 and 46 should be harmonized.

3.2 The Conference may also consider to recommend that ICAO undertake a study on the application of aircraft weight by air navigation services providers worldwide, with a view to identifying best practices as well as determining whether any amendment is required to Doc 9082 or if there is a need for additional guidance for States.

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