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ECONOMIC COMMISSION AND TECHNICAL COMMISSION

Agenda Item 23: Consolidated statement of continuing ICAO policies and practices related to communications, navigation, and surveillance/air traffic management (CNS/ATM) systems

Agenda Item 28: Regulation and organization of airports and air navigation services

AIR NAVIGATION SERVICES PERFORMANCE

(Presented by 41 Contracting States, Members of the European Civil Aviation Conference)²

SUMMARY

This paper recalls the importance of Air Navigation Services (ANS) performance, and related decisions within ICAO, and describes experience in Europe in this area.

The paper proposes that ICAO accelerates and amplifies its programme of action related to ANS Performance and gives it sufficient priority within its existing work programme. Adoption of performance targets for the global Air Traffic Management system could become the main driver of ICAO action in this field. The paper has been elaborated and coordinated by EUROCONTROL.

Action by the Assembly is in paragraph 4.

¹ English, French, Russian and Spanish versions provided by ECAC.

² Albania, Armenia, Austria*, Azerbaijan, Belgium*, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus*, the Czech Republic*, Denmark*, Estonia*, Finland*, France*, Germany*, Greece*, Hungary*, Iceland, Ireland*, Italy*, Latvia*, Lithuania*, Luxembourg*, Malta*, Moldova, Monaco, the Netherlands*, Norway, Poland*, Portugal*, the Republic of Moldova, Romania, Slovakia*, Slovenia*, Spain*, Sweden*, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine and the United Kingdom*.

Member States of the European Union are indicated with an asterisk in the above list.

1. INTRODUCTION

1.1 It is widely recognised that the performance of the Air Navigation Services (ANS) is of major significance for aviation safety, efficiency and regularity. The direct cost of ANS is estimated at USD 15-20 billion worldwide. In addition, airspace users bear the cost of system inefficiencies (e.g.: delays) amounting to billions of dollars every year [Ref. 1].

1.2 ICAO has started addressing ANS performance issues. In 2001, the Council of ICAO encouraged the use of performance data for management purposes and in support of consultation with airspace users [Ref. 2].

1.3 The 11th Air Navigation Conference (2003) emphasised the importance of ICAO continuing its work in the field of economic performance and that it assess the need for worldwide standardization of minimum reporting requirements (Recommendation 3/2). It also agreed that performance metrics should be developed within the ICAO framework, future agreement be reached on the definition of metrics for different objectives and targets be set at the global, regional and State levels. The conference reaffirmed that the future global ATM system should be based on specific performance objectives to be met and monitored (Recommendation 3/3) [Ref. 3].

1.4 The ICAO ATM Concepts Panel (ATMCP) has developed a hierarchy of ATM performance concepts (see *Figure 1*). Experience in Europe can help ICAO to develop the top two levels: “Political and Socio-economic requirements” and “Required ATM System performance”.

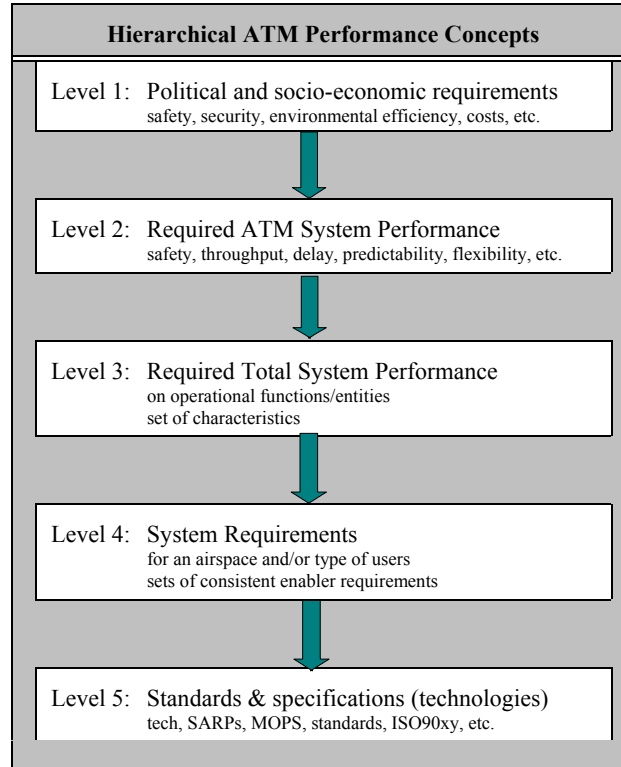


Figure 1: ATMCP hierarchy of ATM Performance

1.5 The ICAO ANS Economics Panel (ANSEP) is developing guidance material related to Measuring ANS Performance and Productivity (Revision of Chapter 3, Section C, of ICAO Doc 9161).

1.6 Work on ANS performance is also underway in several regions. Since the 1990s, there has been a move from “technical/operational” solutions, to “performance-oriented” strategies. Many States have adopted performance-oriented strategies for ANS, including the 41 States of the European Civil Aviation Conference (ECAC).

1.7 This paper describes the approach to ANS performance issues taken in Europe and the results that are obtained. It proposes that ICAO accelerates and amplifies its programme of action related to ANS Performance and gives it sufficient priority within its existing work programme.

2. APPROACH TO ANS PERFORMANCE IN EUROPE

2.1 The ECAC Institutional Strategy [Ref.4] adopted in 1997 is performance rather than solutions oriented. The ATM 2000+ strategy [Ref.5] adopted in 2000 includes qualitative performance objectives (safety, capacity, economy, etc), a road map and sub-strategies such as COM and NAV strategies.

2.2 In 2004, the European Union adopted four regulations creating a “Single European Sky” (SES) [Ref.6], which will be applicable and enforceable in the 25 Member States of the European Community and in the States of the European Economic Area (EEA, - Iceland, Norway, Switzerland). The objective of the Single European Sky initiative is “to enhance current safety standards and overall efficiency for general air traffic in Europe, to optimise capacity meeting the requirements of all airspace users and to minimise delays.”

2.3 The performance-oriented approach to ANS in Europe consists of:

- a) Performance target setting;
- b) Regulatory requirements and performance management arrangements, to ensure that essential objectives and targets are met in an institutional context of distributed service provision;
 - Safety: safety regulatory requirements and management processes are combined to ensure that safety objectives are met;
 - Delays: a co-operative approach is followed for delay and capacity management, based on individual ANS plans and commitments co-ordinated by EUROCONTROL. This approach has been successful in meeting challenging delay targets;
 - Cost-effectiveness: charging principles and reporting requirements are established and being reinforced (publication of plans, etc). Benchmarking is applied on a yearly basis to identify best practices and areas for improvement among European ANS providers;
- c) Independent review of achieved performance by the Performance Review Commission (PRC) [Ref.7]. A homogeneous and reliable information flow is required to this effect.

2.4 The current status of the European performance-oriented approach to ATM is summarised in Table 1. It shows the Key Performance Areas (KPA) and associated Processes. Further regulatory material is being developed as implementing rules of Single European Sky regulations.

Processes	KPA	Safety	Delays	Cost-effectiveness
Performance targets		Pending	T	Development agreed
Regulation		Well advanced, not fully applied	Minimal Incentives (one State only)	Route charge principles Reporting requirements Incentives (one State only)
Performance management		Strategic Safety Action Plan	T Mostly co-operative	Individual plans Benchmarking
Information flow		To be established	T	T
Performance review		Under development	T	T
Achieved performance		No conclusive information	Strong improvement	Progressive improvement

Table 1: Status of European performance-oriented approach to ATM

2.5 In summary, the European approach to ATM performance is based on performance target setting, regulation separate from service provision, performance management systems to ensure that targets are met, information flows and independent performance review. Principles, rules and processes, although not fully developed yet, have already played a significant role in improving ANS performance in Europe.

2.6 However, experience has shown that performance-oriented approaches within one State/region need to be cross-fertilised with, and reinforced by, experience and results elsewhere. One example is the comparison of selected US and European Area Control Centres published by the PRC in 2003 [Ref.8].

3. POSSIBLE APPROACH BY ICAO

3.1 ICAO, as the worldwide organisation for international civil aviation, is uniquely placed to foster performance improvements in ANS, thereby contributing to its mission to ensure the safe, regular, efficient and economical operation of international air services. ICAO also has an essential role to play in bridging regional initiatives and giving direction on a world-wide level.

3.2 Adoption of performance targets for the global Air Traffic Management system could become the main driver of ICAO action in this field. Furthermore, a world-wide forum on ANS performance would enable experience of regions and States to be shared and cross-fertilised on a global basis, and spread to all regions with industry involvement, as illustrated in Figure 2. In that connection, it is important to reinforce national and regional performance-oriented initiatives, which could be co-ordinated through ICAO's Regional offices.



Figure 2: Sharing of experience on ANS performance (National, regional and global levels)

3.3 To make such a forum viable, ICAO would need to develop high-level safety, technical and economic performance objectives and targets on a global and regional basis. ICAO would also develop standards for reporting requirements of performance plans and results, and associated guidance material. This could be initiated through a world-wide symposium. ICAO should also continue its work on the implementation of Recommendation 3/3 of the 11th ANC concerning the development of a performance framework.

3.4 This working paper accordingly proposes that the Assembly requests ICAO to accelerate and amplify its programme of action related to ANS Performance and gives it sufficient priority within its existing work programme. EUROCONTROL stands ready to contribute with its experiences to these activities.

4. ACTION BY THE ASSEMBLY

4.1 The Assembly is invited to:

- a) urgently progress work on ANConf/11 Recommendation 3/3, using the appropriate existing panels and/or a multi-disciplinary groups, concerning the development of high-level technical and economic performance objectives and targets for the global and regional ATM systems;
- b) organise a world-wide symposium to address the need for establishment of performance objectives and for continuous monitoring of planned and achieved performance; and
- c) develop standards for reporting requirements of performance results and information disclosure, and associated guidance material.

— END —

¹ Performance Review Report 6, section 8.1, EUROCONTROL, July 2003

² ICAO doc 9082/6 "ICAO's policies on Charges for Airports and Air Navigation Services", 6th Edition 2001

³ ICAO State Letter 12/4-04/30 dated 26th March 2004 regarding the Eleventh Air Navigation Conference (2003)

⁴ ECAC Institutional Strategy for ATM in Europe, adopted by ECAC Ministers of Transport, February 1997

⁵ Air Traffic Management Strategy for the Years 2000+ (ed. January 2003), EUROCONTROL, <http://www.eurocontrol.int/eatmp/library/strategydoc/html>

⁶ Regulation (EC) No 549/2004 of the European Parliament and of the Council laying down the framework for the creation of the Single European Sky ("Framework Regulation")

⁷ Seventh Performance Review Report (PRR 7), covering the calendar year 2003, PRC, EUROCONTROL, April 2004, <http://www.eurocontrol.int/prc>

⁸ A comparison of performance in selected US and European en-route Centres, PRC, EUROCONTROL, May 2003, <http://www.eurocontrol.int/prc/index/html>