



International Civil Aviation Organization and the Directorate General of Air Communication, Indonesia

SIXTH MEETING OF AERONAUTICAL TELECOMMUNICATION NETWORK (ATN) TRANSITION TASK FORCE OF APANPIRG

Bali, Indonesia, 26-30 April 2004



Agenda Item 5: Review Tables and Charts for the ground-to-ground part of the CNS FASID

PROPOSAL AMENDMENT OF THE CNS PART OF THE EUR ANP BASIC AND FASID

(Presented by Constantina Andrikopoulou, HCAA)

SUMMARY

The present Working Paper provides information on the contents of the EUR ANP (DOC. 7030) pertaining to aeronautical communications.

1. INTRODUCTION

Following the issue of the First Edition of the EUR ANP in the new format established by ICAO (end of 2001), the AFSG was tasked to draft appropriate proposals for amendment of the CNS Part of the EUR ANP Basic and FASID.

2. DISCUSSION

2.1 In the frame of this task, the AFSG/PG reviewed the ANP material related to aeronautical communications.

2.2 The resulting proposals for amendment of the EUR ANP (Basic and FASID) were drafted with the view to align the COM provisions of the document with the relevant developments in the EUR Region and to include enabling text for ATN applications. These proposals were recently approved, after completion of the formal ANP amendment procedures, and will be published in the near future.

2.3 The amendment of the Basic part of the EUR ANP is at Attachment A.

2.4 The amendment of the FASID part was rather limited due to the lack of sufficient AMHS implementation and transition information at the time. As Chart CNS-1 of the FASID has not yet been updated, two current charts depicting actual AFTN/CIDIN and OLDI (AIDC) connectivity in the EUR Region are also provided in Attachment B for easy reference.

2.5 It is the intention of the AFSG to continue drafting material for the EUR ANP, which will mainly reflect ongoing developments concerning AMHS implementation in the EUR Region.

Namely, the following subjects will be addressed:

- the definition of the service profile AMHS for the EUR Region;
- common facilities, including management;
- inter-regional entry-exit point matters (boundary routers etc.);
- the underlying network; and
- State plans.

3. RECOMMENDATIONS

The meeting is invited to note the above information.



PROPOSAL FOR AMENDMENT OF THE ICAO EUR BASIC AIR NAVIGATION PLAN

(Serial No.: EUR / NAT 00/35 - CNS)

a) **Plan:**

Basic Air Navigation Plan – European Region - Doc 7754 Vol. 1 (1st Edition, 2001) as updated by Amendment No.1)

b) **Proposed Amendment:**

PART IV – (CNS)

Amend the paragraphs 4. to 29. as follows:

"AERONAUTICAL FIXED SERVICE (AFS)

Basic requirements

4. The aeronautical fixed service (AFS) should satisfy the communication requirements of ATS, ATFM, AIS, MET and SAR, including specific requirements in terms of system reliability, message integrity and transit times, with respect to printed as well as digital data and speech communications. If need be, it should, following agreement between individual States and aircraft operators, satisfy the requirements for airline operational control.
[Annex 3, 11.1; Annex 11, 6.2; Annex 12, 2.4; Annex 15, Chapter 9; Annex 10, Volume II, Chapter 4]

5. To meet the data communication requirements, a uniform high-grade aeronautical network should be provided, based on the concept of the Aeronautical Telecommunication Network (ATN) , taking into account the existence and continuation of current networks. This network is hereafter referred as the Improved EUR Network.
[Annex 10, Volume III, Part I]

Existing network

6. Pending future development of the EUR AFS, the current requirements should be met by the use of:

- a) the Aeronautical Fixed Telecommunication Network (AFTN) ;
- b) the Common ICAO Data Interchange Network (CIDIN) and the CIDIN COM Centres;
- c) the Aeronautical Message Handling Systems (AMHS) , the AMHS COM Centres and the AMHS gateways;
- d) the dedicated networks of ATS providers;
- e) the OPMET circuits and centres;

- f) the ATS speech networks and circuits;
 - g) the ATS computer-to-computer data networks and circuits; and
 - h) the satellite distribution system for information relating to air navigation (SADIS).
7. All possible arrangements should be made to ensure that, in case of breakdown of a communications centre or circuit, at least high-priority traffic continues to be handled by appropriate means.
8. Emergency procedures should be developed to ensure that, in case of a centre breakdown, all the parties concerned are promptly informed of the prevailing situation.
9. AFS planning should permit flexibility in detailed development and implementation.

Improved network

10. The Improved EUR Network based on the ATN concept should have sufficient capacity to meet the basic requirements for data communications for the services mentioned in 4 above.
11. The Improved EUR Network should be capable of carrying the following main types of traffic:
- a) ATS data traffic, including real-time data exchanges between ATS computers;
 - b) ATFM traffic;
 - c) AIS traffic (e.g. Class 1 NOTAM, pre-flight information bulletins);
 - d) ground communications traffic associated with air-ground data link applications;
 - e) OPMET messages, bulletins and area forecasts, including upper air forecasts for grid points in digital form; and
 - f) SAR traffic;

Note. — A requirement for the Improved EUR Network to carry speech and digital facsimile may have to be considered in the long term as and when this becomes practicable and cost effective.

12. The Improved EUR Network should make optimum use of dedicated aeronautical and public data networks commensurate with the operational quality of service requirements.
13. The plan for the implementation of the Improved EUR Network should take into account the need for cost-effective evolution in terms of network capacity and allow for a progressive transition from existing ground communication networks and services to a uniform, harmonised and integrated communications infrastructure.

14. The Improved EUR Network should provide for interregional connections to support data exchange and mobile routing within the global ATN.

15. In planning the Improved EUR Network, provisions should be made, where required, for interfacing with other international networks.

Specific ATS requirements

16. Where ATS speech and data communication links between any two points are provided, the engineering arrangements should be such as to avoid the simultaneous loss of both circuits.

17. Special provisions should be made to ensure a rapid restoration of ATS speech circuits in case of outage.

18. The direct access speech capability provided between ATS units should permit contact to be established as rapidly as necessary commensurate with the functions of the unit concerned.
[Annex 11, 6.2]

19. Data circuits between ATS systems should provide for both high capacity and message integrity.

Specific MET requirements

20. In the transmission of operational meteorological information on the Improved EUR Network the specified transit times should be met on at least 95 per cent of occasions.
[Annex 3, 11.1.11]

21. The increasing use of the GRIB and BUFR code forms for the dissemination of the upper forecasts and the planned transition to the BUFR/CREX code form (or table driven code form) for the dissemination of OPMET messages should be taken into account in the planning process of the improved network.

22. In planning the Improved EUR Network, account should be taken of changes in the current pattern of distribution of meteorological information resulting from the increasing number of long-range direct flights and the trend towards centralized flight planning.

Note. — Specific requirements concerning ATFM and AIS have still to be developed.

AERONAUTICAL MOBILE SERVICE (AMS)

23. Air-ground communications facilities should meet rapidly and reliably the agreed communication requirements of the air traffic services, as well as all other types of communications which are acceptable on the AMS to the extent that the latter types of communications can be accommodated.

24. To meet the air-ground data communication requirements, a high-grade aeronautical network should be provided based on the ATN, recognising that other technologies may be used as

part of the transition. The network needs to integrate the various data links in a seamless fashion and provide for end-to-end communications between airborne and ground-based facilities.
[Doc 9705]

25. Whenever required, use of suitable techniques on VHF or higher frequencies should be made.

26. Operation on HF should only be employed when use of VHF is not feasible. When HF is used, the single side-band technique should be employed.
[Annex 10, Volume III, Part II, Chapter 2.]

27. Aerodromes having a significant volume of IGA traffic should be provided with appropriate air-ground communication channels."

(cf. Part IV – CNS page IV-1 to IV-3)

c) **Originated by:**

European Air Navigation Planning Group (EANPG)

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