AERONAUTICAL TELECOMMUNICATIONS NETWORK (ATN)

WG3 - (ATN Applications and Upper Layers) Sixteenth Meeting

Naples. Italy

18 – 21 May 1999

Agenda Item 3.1: Report of ADSP WG A & B Meetings

Brief Reports of ADSP Adelaide and Ottawa Meetings

(Presented by M J Asbury)

1.   INTRODUCTION

1.1   ADSP Working Groups A & B have met twice since the last ATNP WG 3 meeting in Honolulu – ADSP Working Groups A & B both met in Adelaide between 1st and 12th February, and then again between 26th April and 7th May.

2.   DISCUSSION

2.1.   In both Working groups, the emphasis was on the preparation of Annex and ICAO Document material for presentation to ADSP/5, due to be held 18 – 29 October 1999.

Working Group A

2.2   This WG is principally concerned with ADS (contract) and ADS-B (Broadcast). Operating procedures have been developed and material has been proposed principally for inclusion in for ICAO Doc 4444 (Procedures for Air Navigation and Rules of the Air), Annex 11 (Air Traffic Control), Annex 10 Volume 2 (Communications) and Annex 1 (Licensing).

2.3   In addition, WG A has prepared a draft ADS-B Manual, and an ADS-B Concept paper for presentation at ADSP/5.

Working Group B

2.4   This WG is concerned with all other elements of ATS data link applications, including Context Management, Controller Pilot Data Link Communications, Data Link Flight Information Services and ATS Interfacility Data link Communications. Procedures have been developed, and material has been proposed for inclusion principally in Annex 10 Vol 2 and Doc 4444.

2.5   In addition, WG B has prepared a draft Manual outlining the Concept of Required Communications Performance, taking into account all aspects of performance in the communication of ATS messages, both human and technical.

2.6   Together, both WGs have been responsible for updating and amending ICAO Doc 9694, Manual of ATS Data Link Applications, which has been printed and is due for imminent

release by ICAO. Both WGs have also been instrumental in approving an ADS Lexicon, which seeks to define all terms used in ADSP data link applications. Both groups have also looked at Security requirements, and future applications of the data link technology.

3.   RECOMMENDATION

3.1   The Working Group is invited to note the work being done by the ADSP Working Groups, which is reviewed in the brief reports of the recent meetings appended to this paper.

Appendix A – Report of Working Group A, Adelaide, 8 – 12 February 1999

Appendix B – Report of Working Group A, Ottawa, 3 –7 May 1999

Appendix C – Report of Working Group B, Adelaide, 1 – 5 February 1999

Appendix D – Report of Working Group B, Ottawa, 26 – 30 April 1999

End…

BRIEF NOTES OF THE AUTOMATIC DEPENDENT SURVEILLANCE PANEL WORKING GROUP A MEETING, ADELAIDE, SA., 1 – 5 FEBRUARY 1999.

1.   The meeting of ADSP WG A was held in the Hyatt Regency, Adelaide, South Australia from 1 - 5 February 1998. It was attended by 22 members from 10 states and 4 International Organisations. The meeting was chaired by Don MacLean - 18 Work Papers (WP) and Information papers were presented. Chris Dalton, the ICAO ADSP Secretary was in attendance, providing ICAO advice and policy.

2.   The meeting was presented with an update on the ICAO Air Navigation Commission Working Group looking into the work of the Panels. This group was trying to make sure that Panels worked better, with more co-ordination. In the final review they identified about five major issues. Panel members and State administrations will get a report by letter in due course.

3.   Much of the work of the meeting concerned the reviewing and redrafting of ADS-related material for inclusion in Annexes and Doc 4444, Procedures for Air Navigation. The Secretariat has been under great pressure to make the material more widely available, but it was not yet mature. Annex 11 referred to standards in Doc 4444, and therefore the drafting had to be specific – generic wording was not acceptable. The Chairman wanted a version here that could be rubberstamped at the pre-panel Working Group A meeting in Ottawa. A version of a new Section 12 (ADS) for Doc 4444 was produced and would be circulated for comment.

4.   Concerning the ADS-Broadcast (ADS-B) concepts and Operational Requirements, the ANC would be expecting some really firm material out of ADSP/5, since ADSP was the Panel with the overall responsibility for the ADS-B package. There was work going on in Europe, the MASPs had been produced by RTCA and there was a major investment programme by the Cargo Airlines Association. It was difficult to develop operational requirements – there did not seem to be any with global applicability. ADS-B was perceived as low priority. Nevertheless a significant input would have to be made to ADSP/5. A large amount of outline and detail work had already been done in the RTCA-published Minimum Aircraft System Performance Specifications, and input would be based on this. The meeting agreed to generate a paper for the next meeting, with multiple inputs, and edited by the FAA

5.   Several States, including Australia, Japan and USA, presented reports of ADS work, including testing, trials, pre-operational implementation, and planned dates of full operations .

6.   The potential for ADS enhancements was discussed, relating to the provision of further aircraft information to the ground system. The ADSP had had material presented to them earlier, and had a problem justifying the global need, and this was still the case.

7.   At an earlier meeting, the topic of additional licensing/endorsements had been raised. Various options were reviewed. The ICAO documentation is extremely old, and seriously in need of updating. There was a need to liase with the European work programme on license types. It was suggested that this Panel has no need to make any recommendations concerning licensing to any other ICAO Panel. It was pointed out that ICAO has amended Annex 1 to include 'other surveillance' (e.g. ADS) under Radar Ratings – but had left it out of the Procedural Rating. Members would discuss this with their administrations.

8.   Questioned about firm dates for the Panel Meeting, the Secretary confirmed that he would be writing a formal letter to the ANC proposing the dates of 18 – 30 October.

9.   The next meeting of WG A will be held in Ottawa from 26 – 30 April.

BRIEF NOTES OF THE AUTOMATIC DEPENDENT SURVEILLANCE PANEL (ADSP) WORKING GROUP A (WG A) MEETING, OTTAWA, 3 – 7 MAY 1999

1.   The last meeting of the ADSP WG A meeting prior to the next full Panel meeting (ADSP/5) was held at the Sheraton Hotel, Ottawa, from 3 – 7 May 1999. It was attended by members from 13 States and three International Organisations. 16 Working Papers were presented.

2   There were no papers relating to proposed amendments to Annex 10 – all proposed amendments relate to PANS/RAC.   Material was presented and adopted relating to Amendments to sections concerning –

    a.   Security,
    b   Finding a solution to ADS performance differences so as not to enforce the high demands of surveillance performance on all uses of the ADS,
    c.   The use of ADS in co-ordination demarcate the function of the controller and that of the ADS processing system,
    d.   Prioritising of the already listed 'essential' and 'desirable' requirements of an ADS automation (not slavishly follow the terminology out of the radar sections), and,
    e.   Presentation of ADS information to the controller,

3.   The Panel Secretary reviewed previous draft material, and the (his) outstanding actions. He wanted extra input at this meeting on –

    a.   System data/flight plan correlation, for a generic ADS operation,
    b.   The mixture of controller and automation tasks in an automated environment including consideration of human factors input,
    c.   ADS contact procedures,
    d.   The testing of ADS in an operational environment, and,
    e.   Procedures relating to aircraft navigational accuracy

4.Material suitable for approval at ADSP/5 and subsequent introduction to PANS/RAC and Annex 10 was produced at the meeting

5.   The WG had been made responsible for generating the ADS-B operational concept for ICAO. US had prepared a large paper, based on existing RTCA work, and UK offered an outline paper the format of a proposed ADS-B concept paper for ADSP/5 along the lines requested by the Panel Secretary. A paper was prepared along the lines of the UK draft.

6.   A short paper on the legal aspects of data link implementation was presented, and will be expanded for ADSP/5. Another regulatory paper, which proposed amendments to Annex 1 to accommodate ADS, CPDLC and future technologies from a training, rating and licensing perspective, was presented – this had been co-ordinated with UK/JAA work through UK SRG. There needed to be more discussion, at least with Europe, and this would be recognised in a paper for ADSP/5.

7.   There will be no further meeting of the Working Group before the next Panel meeting, to be held in Montreal from 18 ̄ 29 October 1999.

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BRIEF NOTES OF THE ADSP WORKING GROUP B (WGB) MEETING, ADELAIDE, 8 – 12 FEBRUARY 1999

1.   The latest meeting of ADSP WGB was held in the Hyatt Hotel, Adelaide, SA, from 8 – 12 February 1999. It was attended by 23 members from 9 states and 5 International Organisations. The meeting was chaired by Jean Francois Grout, and 21 work papers and Information papers were presented.   Chris Dalton, the ICAO ADSP Secretary was in attendance, providing ICAO advice and policy.

 2.   Several papers were presented covering questions arising from the operational aspects of early implementation. It was identified that there were times when an error message cannot be sent as a response message, because no response is permitted. It was always possible to send an Error as a message, regardless of whether it is as a response, or as a message in its own right, when any sort of error is detected. Also, there had been significant discussion on the proposed use of the 'DISREGARD' message in earlier meetings. There was a need to look at the ORs again to develop a means for an easy closure of the disregarded messages. It should be stressed that if in a voice environment, voice is the preferred means of cancelling a data link message. A problem was identified at earlier meetings concerning delayed messages. Normal ATC procedures were such that a controller would query undue delays.   The general conclusion was that there was no significant problem.

3.   Regarding work on specific data link applications, the French were taking responsibility for the alignment of ground/ground data link applications with the appropriate ICAO documentation.   NATS was interested, and co-ordination and co-operation were requested. In response to questions from the WG after the last meeting, related to the METAR service, ICAO had indicated that there was an action to prepare sound operational requirements for the METAR service. ORs will be prepared for the next meeting. There were technical problems with some information supplied by ICAO, and clarification was required.

4.   Based on earlier work, ICAO had produced draft amendments to Annex 10 – Aeronautical Telecommunications Procedures. Theses were reviewed in considerable detail – more work is required between now and the next meeting. The problem was that this was now Annex material, and not PANS/RAC, and checking and interpretation had to be more precise. Arising from this scrutiny, some errors and omissions were detected and will have to be corrected before the next meeting, in order to be acceptable to ADSP/5. There were still a number of issues outstanding, in particular checking that enough has been done in data link to indicate that there is a compliance with voice, and identifying whether additional procedures have to be developed.

5.   A draft outline for the Manual for the Concept of Required Communications Performance has been produced. The consensus of the WG was that the human element has to be taken into account. The German member had produced a diagram of such astounding clarity that it was immediately adopted by the WG as the basis for further work, and was reproduced, with amendments, in the draft Manual. It was agreed that the WG would define a deeper outline.

6.   The WG was presented with papers describing data link related work going on in USA, Eurocontrol, France Australia, Germany and Italy, and was please to see the breadth of work being carried out.

7.   The next meeting will be held in Ottawa, Canada, from 3 – 7 May 1999.

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BRIEF NOTES OF THE AUTOMATIC DEPENDENT SURVEILLANCE PANEL (ADSP) WORKING GROUP B (WG B) MEETING, OTTAWA, 26 – 30 APRIL 1999

1.   The last meeting of the ADSP WG B meeting prior to the next full Panel meeting (ADSP/5) was held at the Sheraton Hotel, Ottawa, from 26 - 30 April 1999. It was chaired by J-F Grout, of France and attended by members from 13 States and three International Organisations. 18 Working Papers were presented, and the revised draft Manual of ADS Data Link Applications (Doc 9694) was made available for editorial review prior to publication.

2.   The meeting was principally concerned with the review of Controller Pilot Data Link Communications (CPDLC), Data Link Flight Information Services (D-FIS) including Data Link Automatic Terminal Information Service (D-ATIS) and Data Link Aerodrome Meteorological Reports (D-METAR), and Air Traffic System Interfacility Data Communications (AIDC) amendment proposals for the ICAO Annexes, Procedures for Air Navigation/Rules of the Air (PANS/RAC) and associated guidance material to be contained in Doc 9694,

3.   Material was brought to the meeting concerning security of all data link applications, timestamping of messages, operational aspects of CPDLC, updating of METAR and ATIS information in the D-FIS, amendments to the ground/ground AIDC requirements, human factors performance of controllers in the data link environment, data link system testing procedures, and the use of non Annex 5 compliant units in some part of the world.

4.   This material was evaluated by the working group, and appropriate material for Annex 2, Annex 10 Volume II, Annex 11, Doc 4444 (PANS/RAC) and Doc 9694 (Manual of ATS Data Link Applications) was prepared. This will be brought to the 5th Meeting of the ADSP in October.

5.   The ADSP had been tasked with preparing a Manual outlining the concept of a RCP, (but not the mechanism by which it could be achieved, nor an index of types). The overall concept had been accepted in Adelaide, but it had required refining, and this had been done. The meeting (excluding the Spanish and Saudi Arabian members) concluded that the concept was mature enough to take to ADSP/5 and hence to the Air Navigation Commission for further consideration.

6.   The ADSP Working Groups have also developed a lexicon of definitions relating to the ATS Data Link Applications. An updated version was presented, and the meeting agreed that the lexicon should be presented to the Panel, but not translated. This was not a standard procedure, since all papers would normally be translated, but the essence of the lexicon was that it was of terms in the English language.

7.   An Editorial group reviewed the latest version of Doc 9694, due for printing ad publication in the near future. There was a need to differentiate what were mere editorial errors, which might be changed prior to printing, and what were material changes which would have to be brought before the Panel for ratification. Opportunity was taken to remove obsolete material, and to bring the material into line with Annex 2, 11 and PANS/RAC amendments. Doc 9694 should be published and distributed within the next two months.

8.   There will be no further meeting of the Working Group before the next Panel meeting, to be held in Montreal from 18 ‐ 29 October 1999. All papers for the Panel meeting should be in three months before the date of the Panel meeting – i.e. by mid July.

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