AERONAUTICAL TELECOMMUNICATION NETWORK PANEL (ATNP)

THIRD MEETING

Montreal, 7 to 18 February 2000

Agenda Item 4: Review of existing technical and procedural provisions relating to the aeronautical fixed service (AFS)

REPORT ON AGENDA ITEM 4

The attached constitutes the report on Agenda Item 4 and should be inserted at the appropriate place in the yellow report folder.

Agenda Item 4: Review of existing technical and procedural provisions relating to the aeronautical fixed service (AFS)

4.1 GENERAL

4.1.1 The meeting recalled that ATNP was the only panel in ICAO which had the expertise required to deal with the aeronautical fixed telecommunication network (AFTN) and the common ICAO data interchange network (CIDIN) matters. It was further recalled that as a result of a new task established by the Air Navigation Commission (ANC) in 1999, the panel had been requested to develop operational procedures necessary for smooth and efficient operation of the data interchange portion of the aeronautical fixed service (AFS) as necessitated by new ATN ground-ground applications.

4.1.2 It was noted that in its effort to develop to the aforementioned provisions, the panel had taken the opportunity to propose other refinements to existing material contained in Annex 10, Volumes II and III where appropriate.

4.2 PROPOSED AMENDMENT TO ANNEX 10, VOLUME II

4.2.1 It was noted that in line with the assigned task of developing the necessary procedural provisions for the data interchange portion of the AFS, the panel had developed a proposal to:

a) expand the definition of the AFS to encompass newly introduced ATN ground-ground applications as well as older systems such as CIDIN; and

b) delete obsolete material and insert new useful procedures where necessary.

4.2.2 More specifically, the following major elements of the proposed amendment were noted:

a) Chapter 2 — paragraph 2.2 which contains obsolete material on telecommunication charges is replaced by a text which introduces requirements for physical security of ATN end systems and intermediate systems;

b) Chapter 4 — paragraph 4.1.1 which defined the AFS is expanded to include ATS message handling system (AMHS), inter-centre communications (ICC) and other elements;

c) Chapter 4 — a new paragraph 4.1.2 indicating the transition path for AFTN/CIDIN is added;

d) Chapter 4 — new sections 4.5 and 4.6 containing CIDIN, AMHS (including CIDIN/AMHS and AFTN/AMHS gateways) and ICC procedures have been added;

e) Chapter 4 — paragraph 4.5 which gives an obsolete definition of the ATM data exchange, in particular by limiting it to code IA-5 is removed;

f) Attachment C containing guidance material on obsolete AFTN address stripping procedure (removed as part of Amendment 69 in 1993) is removed; and

g) cross references are adjusted accordingly.

4.2.3 The meeting reviewed the developed proposed amendment to existing communication procedures and formulated the following recommendation:

RSPP **Recommendation 4/1 — Amendment to communication procedures**

That Annex 10, Volume II be amended as shown in Appendix A to the report on this agenda item.

4.3 PROPOSED AMENDMENT TO ANNEX 10, VOLUME III

4.3.1 The meeting acknowledged that in line with the new trend in ICAO to limit Annex material to broad, general, mature and mostly regulatory provisions, there was a requirement to amend Standards and Recommended Practices (SARPs) for CIDIN. Therefore, a proposed amendment to remove unnecessary and/or obsolete technical details of CIDIN to improve the relevance, currency and usefulness of Annex 10 was supported and the following recommendation was developed:

RSPP **Recommendation 4/2 — Amendment to CIDIN SARPs**

That Annex 10, Volume III, Part I, Chapter 8 be amended as shown in Appendix B to the report on this agenda item.

4.4 OTHER AFS MATTERS

4.4.1 It was reported to the meeting that problems were being experienced with the operation of a certain gateway connecting the AFTN to a service provider's network. More specifically, it was reported that non-adherence of the aforementioned gateway to the applicable SARPs often resulted in uncontrolled AFTN transmission.

4.4.2 It was determined that the case reported did not imply any amendment to existing SARPs and that the matter was mainly due to lack of coordination and non-adherence to the applicable procedures defined in Annex 10, Volume II. As such, it was agreed that although there was little the meeting could do to solve the problem, individual members/advisors who were in a position to do so should follow up on the subject with the assistance of the ICAO Secretariat.

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APPENDIX A

PROPOSED AMENDMENT TO ANNEX 10, VOLUME II RELATING TO AFS PROCEDURES

NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

1. ~~Text to be deleted is shown with a line through it.~~	text to be deleted
2. New text to be inserted is highlighted with grey shading.	new text to be inserted
3 ~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.	new text to replace existing text

CHAPTER 2. ADMINISTRATIVE PROVISIONS RELATING TO THE INTERNATIONAL AERONAUTICAL TELECOMMUNICATIONS SERVICE

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~~2.2 Telecommunications — charges~~

~~**Recommendation —** The exchange of communications necessary for ensuring safety of air navigation and the regularity of air traffic between aeronautical fixed stations of different States and between aeronautical stations and aircraft stations should be handle without specific message charge unless otherwise provided.~~

2.2 **Telecommunication — Access**

2.2.1 All aeronautical telecommunication stations, including end systems and intermediate systems of aeronautical telecommunication network (ATN) shall be protected from unauthorized physical access.

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CHAPTER 4. AERONAUTICAL FIXED SERVICE (AFS)

4.1 General

4.1.1 The aeronautical fixed service comprises ~~all types and~~ the following systems and applications that are used for ground-ground (i.e. point-to-point and/or point-to-multipoint) ~~of point-to-point~~ communications in the international aeronautical telecommunication service:

a) ATS direct speech circuits and networks;

b) meteorological operational channels and meteorological operational telecommunication network;

c) the aeronautical fixed telecommunications network (AFTN);

d) the common ICAO data interchange network (CIDIN);

e) the air traffic services (ATS) message handling services; and

f) the inter-centre communications (ICC);

Note 1.— Provisions relating to ATS direct speech communications are contained in 4.2.

Note 2.— Provisions relating to meteorological operational channels and meteorological operational telecommunication network are contained in 4.3.

Note 3.— The AFTN provides a store-and-forward messaging service for the conveyance of text messages in ITA-2 or IA-5 format, using character oriented procedures. Provisions relating to the AFTN are contained in 4.4.

Note 4.— The CIDIN provides a common transport service for the conveyance of binary or text application messages, in support of the AFTN and OPMET applications. Procedural provisions relating to the CIDIN are contained in 4.5.

Note 5.— The ATS (air traffic services) message handling services (ATSMHS) application allows ATS messages to be exchanged between service users over the aeronautical telecommunication network (ATN) internet communication services (ICS). Procedural provisions relating to ATS message handling services are contained in 4.6.

Note 6.— The inter-centre communications applications enable the exchange of information between air traffic service units over the aeronautical telecommunication network (ATN) internet communication services (ICS), in support of notification, coordination, transfer of control, flight planning, air space management and air traffic flow management. Procedural provisions relating to inter-centre communications are contained in 4.7.

4.1.2 AFTN/CIDIN transition path

Note.— The aeronautical telecommunication network through its ATSMHS and ICC applications enable the transition of existing AFTN and CIDIN users and systems into the ATN architecture.

4.1.2.1 **Recommendation** — *Civil aviation authorities should commence transitioning from the existing AFTN and CIDIN to the ATSMHS at the earliest possible date.*

~~4.1.2~~4.1.3 Material permitted in AFS messages

Note.— The provisions contained in ~~4.1.2~~ 4.1.3 do not apply to the exchange of telephone communications on ATS direct speech circuits.

4.1.3.1 ~~4.1.2.1~~ The following characters are allowed in messages:

Letters: ABCDEFGHIJKLMNOPQRSTUVWXYZ

Figures: 1 2 3 4 5 6 7 8 9 0

Other signs:

- \- (hyphen)
- ? (question mark)
- : (colon)
- ((open bracket)
-) (close bracket)
- . (full stop, period, or decimal point)
- , (comma)
- ' (apostrophe)
- = (double hyphen or equal sign)
- / (oblique)
- \+ (plus sign)

Characters other than those listed above shall not be used in messages unless absolutely necessary for understanding of the text. When used, they shall be spelled out in full.

4.1.3.2 ~~4.1.2.2~~ For the exchange of messages over the teletypewriter circuits, the following signals of the International Telegraph Alphabet No. 2 (ITA-2) shall be permitted:

signals nos. 1 to 3	—	in letter and in figure case;
signal no. 4	—	in letter case only;
signal no. 5	—	in letter and in figure case;
signals nos. 6 to 8	—	in letter case only;
signal no. 9	—	in letter and in figure case;
signal no. 10	—	in letter case only; and
signals nos. 11 to 31	—	in letter and figure case.

Note 1.— "Letter case" and "figure case" are to be understood as the shift condition in which the equipment associated with the channel was positioned prior to the reception of the signal.

Note 2.— When using any of the above signals, account is to be taken of, amongst others, the provisions of 4.4.5.3.

Note 3.— The foregoing provisions of 4.1.3.2 ~~4.1.2.2~~ are not intended to prevent the use of:

a) figure case of signals nos. 6, 7 and 8 after bilateral agreements between States having telecommunication stations directly connected to each other;

b) figure case of signal no. 10 as the priority alarm (see 4.4.4.3); and

c) figure case of signal no. 4 for operational purposes only and not as part of a message.

4.1.3.2.1 ~~4.1.2.2.1~~ For the exchange of messages over the teletypewriter circuits, the following characters of International Alphabet No. 5 (IA-5) shall be permitted:

— characters 0/1 to 0/3, 0/7 — in the priority alarm (see 4.4.15.2.2.5), 0/10, 0/11 — in the ending sequence (see 4.4.15.3.12.1), 0/13;
— characters 2/0, 2/7 to 2/9, 2/11 to 2/15;
— characters 3/0 to 3/10, 3/13, 3/15;
— characters 4/1 to 4/15;
— characters 5/0 to 5/10; and
— character 7/15.

Note.— The foregoing provisions of 4.1.3.2.1 ~~4.1.2.2.1~~ are not intended to prevent the use of the full IA-5 after agreement between the Administrations concerned.

4.1.3.3 ~~4.1.2.3~~ Roman numerals shall not be employed. If the originator of a message wishes the addressee to be informed that roman figures are intended, the arabic figure or figures shall be written and preceded by the word ROMAN.

4.1.3.4 ~~4.1.2.4~~ Messages using the ITA-2 code shall not contain:

1) any uninterrupted sequence of signals nos. 26, 3, 26 and 3 (letter case and figure case) in this order, other than the one in the heading as prescribed in 4.4.2.1.1; and

2) any uninterrupted sequence of four times signal no. 14 (letter case and figure case) other than the one in the ending as prescribed in 4.4.6.1.

4.1.3.4.1 ~~4.1.2.4.1~~ Messages using IA-5 shall not contain:

1) character 0/1 (SOH) other than the one in the heading as prescribed in 4.4.15.1.1 a);

2) character 0/2 (STX) other than the one in the origin line as prescribed in 4.4.15.2.2.7;

3) character 0/3 (ETX) other than the one in the ending as prescribed in 4.4.15.3.12.1;

4) any uninterrupted sequence of characters 5/10, 4/3, 5/10, 4/3 in this order (ZCZC);

5) any uninterrupted sequence of characters 2/11, 3/10, 2/11, 3/10 in this order (+:+:);

6) any uninterrupted sequence of four times character 4/14 (NNNN); and

7) any uninterrupted sequence of four times character 2/12 (,,,,).

4.1.3.5 ~~4.1.2.5~~ The text of messages shall be drafted in plain language or in abbreviations and codes, as prescribed in 3.7. The originator shall avoid the use of plain language when reduction in the length of the

text by appropriate abbreviations and codes is practicable. Words and phrases which are not essential, such as expressions of politeness, shall not be used.

4.1.3.5.1 ~~4.1.2.5.1~~ If the originator of a message wishes alignment functions [</] to be transmitted at specific places in the text part of such message (see 4.4.5.3 and 4.4.15.3.6), the sequence [</] shall be written on each of those places.

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Editorial Note.— Delete existing Section 4.5 in its entirety

Insert new text as follows:

4.5 Common ICAO Data Interchange Network (CIDIN)

4.5.1 The common ICAO data interchange network (CIDIN) comprises application entities and communication services which allow ground-ground message exchange. It shall make use of protocols based on the International Telegraph and Telephone Consultative Committee (CCITT) X25 Recommendation to provide code and byte independent communication facilities.

4.5.2 The principal goals of the CIDIN are the improvement of the AFTN as well as to support large message transmission and more demanding applications, such as operational meteorological information (OPMET), a feature essential to support the provision of safe and efficient air traffic services, between two or multiple ground systems.

Note.— Details of CIDIN communication procedures, as implemented in Europe, are shown in the EUR CIDIN Manual.

4.6 ATS Message Handling Services (ATSMHS)

4.6.1 The ATS message service of the ATS (air traffic services) message handling services (ATSMHS) application shall be used to exchange ATS messages between users.

Note 1.— The ATS message service comprised in the ATS message handling services application aims at providing generic message services over the aeronautical telecommunication network (ATN) internet communication service (ICS). It may in turn be used as a communication system by user-applications communicating over the ATN. This may be achieved, e.g. by means of application program interfaces to the ATS message service.

Note 2.— The detailed specification of the ATS message handling services application is included in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705), Section 3.1.*

Note 3.— The ATS message service is provided by the implementation over the ATN internet communication services of the message handling systems specified in ISO/IEC (International Organization for Standardization/ International Electrotechnical Commission) 10021 and CCITT (Consultative Committee of International Telegraph and Telephone) or ITU-T (International Telecommunication Union — Telecommunications Standards) X.400, and complemented with the additional requirements specified in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705). The two sets of documents, the ISO/IEC MOTIS (Message-Oriented Text Interchange System) International Standards and the CCITT X.400 Series of Recommendations (1988 or later) are in principle aligned with each other. However there are a small number of differences. In the above-mentioned document, reference is made to the relevant ISO International Standards, and International Standardized Profiles (ISP) where applicable. Where necessary, e.g. for reasons of interworking or to point out differences, reference is also made to the relevant X.400 Recommendations.*

Note 4.— End systems performing ATS message handling services.

a) Four types of ATN end systems are defined in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705), section 3.1:*

1) an ATS message server;

2) an ATS message user agent;

3) an AFTN/AMHS gateway (aeronautical fixed telecommunication network/ATS message handling system); and

4) a CIDIN/AMHS gateway (common ICAO data interchange network/ATS message handling system); and

b) connections may be established over the internet communications service between any pair constituted of these ATN end systems and listed in Table 4-1.

Table 4-1. Communications between ATN End Systems implementing ATS Message Handling Services

ATN End System 1	ATN End System 2
ATS Message Server	ATS Message Server
ATS Message Server	AFTN/AMHS Gateway
ATS Message Server	CIDIN/AMHS Gateway
ATS Message Server	ATS Message User Agent
AFTN/AMHS Gateway	AFTN/AMHS Gateway
CIDIN/AMHS Gateway	CIDIN/AMHS Gateway
CIDIN/AMHS Gateway	AFTN/AMHS Gateway

4.7 Inter-Centre Communications (ICC)

4.7.1 The Inter-Centre Communications (ICC) applications set shall be used to exchange ATS messages between air traffic service users over the aeronautical telecommunication network (ATN) Internet.

Note 1.— The ICC applications set enables the exchange of information in support of the following operational services:

a) flight notification ;

b) flight coordination ;

c) transfer of control and communications ;

d) flight planning ;

e) airspace management; and

f) air traffic flow management.

Note 2.— The first of the applications developed for the Inter-Centre Communications (ICC) set is the Air Traffic Service (ATS) Interfacility Data Communication (AIDC).

Note 3.— The ATS Interfacility Data Communication (AIDC) application exchanges information between ATS Units (ATSUs) for support of critical Air Traffic Control (ATC) functions, such as notification of flights approaching a Flight Information Region (FIR) boundary, coordination of boundary conditions and transfer of control and communications authority.

Note 4.— The detailed specification of the ATS interfacility data communication (AIDC) application is included in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705) Sub-volume III, Section 3.2).*

4.7.2 **Recommendation**.— *Civil aviation authorities should commence the use of AIDC for communications between Air Traffic Service Units (ATSUs) when exchanging air traffic control (ATC) information for an active flight*.

Note 1.— The ATS interfacility data communication (AIDC) application is strictly an air traffic control (ATC) application for exchanging tactical control information between ATS Units. It does not support the exchange of information with other offices or facilities.

Note 2.— The ATS interfacility data communication (AIDC) application supports the following operational services:

a) flight notification;

b) flight coordination;

c) transfer of executive control;

d) transfer of communications;

e) transfer of surveillance data (surveillance reports from conventional radars); and

f) transfer of general information (flight related data or free text messages, i.e. unstructured).

End of new text.

Attachment C to Volume II

GUIDANCE MATERIAL FOR AFTN COMMUNICATIONS PROCEDURES

Editorial Note.— Delete this section in its entirety.

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APPENDIX B

PROPOSED AMENDMENT TO ANNEX 10, VOLUME III RELATING TO COMMON ICAO DATA INTERCHANGE NETWORK (CIDIN)

NOTES ON THE PRESENTATION OF THE PROPOSED AMENDMENT

The text of the amendment is arranged to show deleted text with a line through it and new text highlighted with grey shading, as shown below:

1. ~~Text to be deleted is shown with a line through it.~~	text to be deleted
2. New text to be inserted is highlighted with grey shading.	new text to be inserted
3 ~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.	new text to replace existing text

CHAPTER 8.

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8.6.5 Common ICAO data interchange network (CIDIN)

~~*Note.— The common ICAO data interchange network (CIDIN) is one part of the aeronautical fixed service which uses bit-oriented procedures packet switching technique.*~~

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~~8.6.5.1 (CIDIN) protocol levels~~

8.6.5.1 **Introduction**

Note 1.— The common ICAO data interchange network (CIDIN) is an element of the aeronautical fixed service (AFS) which uses bit-oriented procedures, store and forward techniques and packet switching techniques based on CCITT Recommendation X25 to carry messages of specific applications of the AFS such as AFTN and OPMET.

Note 2.— The CIDIN provides a reliable common network service for the conveyance of application messages in binary or text form to Air Traffic Service providers and aircraft operating agencies.

8.6.5.1.1 CIDIN entry and exit centres or stations shall be used to connect application entities to the CIDIN.

Note.— The interfacing between CIDIN and application entities is a matter for local implementation.

8.6.5.1.2 CIDIN relay centres shall be used to forward packets between CIDIN entry and exit centres or stations which are not directly connected.

8.6.5.2 **General**

8.6.5.~~1~~2.1 There shall be four protocol levels defined to control the transfer of messages between CIDIN switching centres:

— the data link protocol level

— the X.25 packet protocol level

— the CIDIN packet protocol level

— the CIDIN transport protocol level

Note 1.— The relationship of the terms used is shown in Figures 8-1 and 8-2.

Note 2.— The details of CIDIN communication procedures and system specifications, as implemented in Europe, are included in the EUR CIDIN Manual.

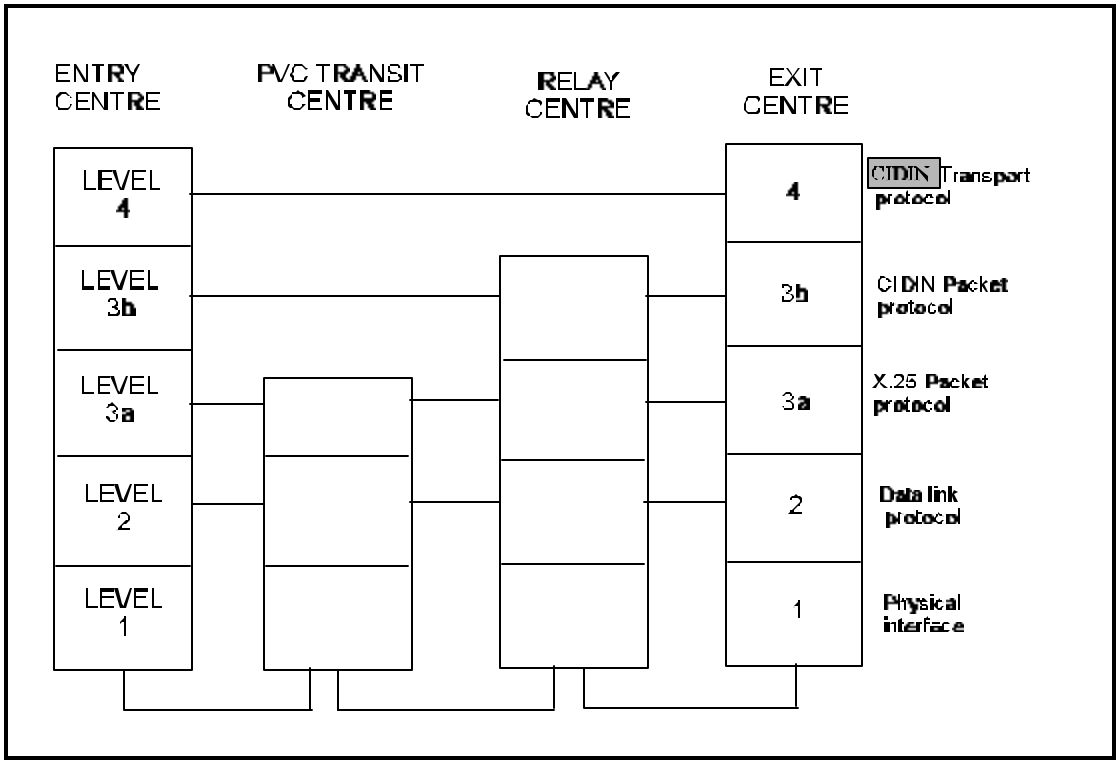

Figure 8-1. CIDIN protocol levels

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8.6.5.3 The data link protocol level

~~8.6.5.1.2.1~~8.6.5.3.2.1 X.25 packets to be transferred between two CIDIN switching centres or a CIDIN switching centre and a packet switched data network, shall be formatted into data link frames.

~~8.6.5.1.2.2~~8.6.5.3.2.2 Each data link frame shall consist of a data link control field (DLCF), possibly followed by a link data field, and shall be terminated by a frame check sequence and flag (being the second part of the DLCF). If a link data field is present, the frame shall be denoted as an information frame.

~~8.6.5.1.2.3~~8.6.5.3.2.3 X.25 packets shall be transmitted within the link data field of information frames. Only one packet shall be contained in the link data field.

~~8.6.5.1.2.4 The data link protocol shall be as described in 8.6.4 above.~~

~~8.6.5.1.3~~8.6.5.3.2 ~~Permanent virtual circuit procedure~~ — The X.25 packet protocol level

~~8.6.5.1.3.1~~8.6.5.3.2.1 Each CIDIN packet to be transferred on CIDIN circuits between CIDIN switching centres shall be formatted into one X.25 packet. When a packet switched data network is used ~~to interconnect two CIDIN switching centres~~, it shall be permissible to format the CIDIN packet into more than one X.25 packet.

~~8.6.5.1.3.2~~8.6.5.3.2.2 The integrity of each CIDIN packet shall be preserved by the X.25 packet protocol by mapping each CIDIN packet onto one complete X.25 packet sequence, as defined in CCITT Recommendation X.25 ~~(1980)~~.

~~8.6.5.1.3.3~~8.6.5.3.2.3 Each X.25 packet shall consist of an X.25 packet header, possibly followed by a user data field (UDF).

~~8.6.5.1.3.4 The X.25 packet protocol is based on the application of permanent virtual circuit (PVC) procedures. A permanent virtual circuit shall be defined as a logical path between two CIDIN switching centres. If a packet switched data network is used to interconnect two CIDIN switching centres, the procedure shall provide full compatibility with the procedures to be followed for PVCs according to CCITT Recommendation X.25 (1981). A packet switched data network providing an X.25 interface to a CIDIN switching centre may offer a number of options. The following options shall be selected if available:~~

~~a) maximum user data field length of 256 octets; and~~

~~b) default window size of seven, or maximum available.~~

~~8.6.5.1.3.5 The X.25 packet procedures shall be as described in 8.6.6.2 below.~~

8.6.5.3.2.4 The X.25 packet protocol is based on the application of virtual circuit procedures. A virtual circuit shall be defined as a logical path between two CIDIN switching centres. If a packet switched data network is used to interconnect two CIDIN switching centres, the procedure shall provide full compatibility with the procedures to be followed for virtual circuits according to CCITT Recommendation X.25.

~~8.6.5.1.4~~8.6.5.3.3 THE CIDIN PACKET PROTOCOL LEVEL

~~8.6.5.1.4.1~~8.6.5.3.3.1 Each transport header and the associated segment shall be preceded by a CIDIN packet header. No further segmentation of the CIDIN message shall be used between transport protocol level and CIDIN packet protocol level. Both headers, therefore, shall be used in combination. Together they shall be referred to as the Communications Control Field (CCF). Together with the message segment they form CIDIN packets that shall be transmitted from entry centre to exit centre(s), when necessary through one or more relay centres, as an entity.

~~8.6.5.1.4.2~~8.6.5.3.3.2 CIDIN packets of one CIDIN message shall be relayed independently via predetermined routes through the network thus allowing alternative routing on a CIDIN packet basis as necessary.

~~8.6.5.1.4.3~~8.6.5.3.3.3 The CIDIN packet header shall contain information to enable relay centres to handle CIDIN packets in the order of priority, to transmit the CIDIN packets on the proper outgoing circuit(s) and to duplicate or multiplicate CIDIN packets when required for multiple dissemination purposes. The information shall be sufficient to apply address stripping on the exit addresses as well as on the addressee indicators of messages in AFTN format.

~~*Note.— Guidance material on address stripping in the CIDIN is contained in the* Manual on the Planning and Engineering of the Aeronautical Fixed Telecommunication Network (Doc 8259).~~

~~8.6.5.1.4.4 The CIDIN packet procedures shall be as described in 8.6.6.3 below.~~

~~8.6.5.1.5~~8.6.5.3.4 THE TRANSPORT PROTOCOL LEVEL

~~8.6.5.1.5.1~~8.6.5.3.4.1 Information exchanged over the CIDIN shall be transmitted as CIDIN messages.

~~8.6.5.1.5.2~~8.6.5.3.4.2 The length of a CIDIN message shall be defined by the CIDIN packet sequence number (CPSN). The maximum permissible length is 2^{15} packets which in effect results in no practical limitation.

~~8.6.5.1.5.3~~8.6.5.3.4.3 If the length of a CIDIN message and its transport and packet headers (as defined below) exceeds 256 octets, the message shall be divided into segments and placed in the CIDIN user data field of CIDIN packets. Each segment shall be preceded by a transport header containing information to enable the re-assembly of the CIDIN message at the exit centre(s) from individually received segments and to determine further handling of the received complete CIDIN message.

~~8.6.5.1.5.4~~8.6.5.3.4.4 All segments of one CIDIN message shall be provided with the same message identification information in the transport header. Only the CPSN and final CIDIN packet (FCP) indicator shall be different.

~~8.6.5.1.5.5~~8.6.5.3.4.5 Recovery of messages shall be performed at the transport level.

~~8.6.5.1.5.6 **Recommendation.—** *When an entry centre has to make separate transmissions of the same message to more than one exit centre, the same message identification number (MIN) should be used for each transmission.*~~

~~8.6.5.1.5.7 The transport protocol shall be as described in 8.6.6.4 below.~~

Editorial Note.— Delete Section 8.6.6 in its entirety.

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