Civil Aviation Authority of Bangladesh
Flight Standard and Regulations Department
ANS Inspection Division
Headquarters; Kurmitola; Dhaka 1229

No. 30.31.0000.000.117.40.0003.26- 475 Date: 08/10/2026

Subject: **Stakeholders Comments/Opinions for Draft Amendment of ANO 10, Vol: 1 to 5**

1. A draft amendment to ANO 10 , Vol: 1 to 5 has been prepared with a view to incorporating the proposed amendments to the Annex 10, Vol: 1 to 5 and ensuring the continued compliance and effectiveness of the applicable aviation regulatory provisions.

2. In this regard, comments/opinions are hereby invited from aviation stakeholders and/or members of the public on the proposed draft amendment. All concerned are requested to review the draft and provide their comments, observations, and opinions, if any, for consideration during the amendment process. Comments/opinions may be submitted to the undersigned.

3. All comments/opinions received will be duly considered in the process of finalizing the proposed amendment. Your valuable comments and constructive feedback are highly appreciated.

Yours Sincerely,

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Amendment 2 to the Air Navigation Order (ANO), "ANO-10 Vol-3 Part I on Digital Data Communication Systems" in order to incorporate up to Amendment 94 to Annex 10 Volume III to the Convention on International Civil Aviation:

Civil Aviation Authority of Bangladesh
GAZETTE
Dated: , Dhaka

In exercise of the power conferred by section 47, read with section 14 of the Civil Aviation Act 2017 (Act No 18 of 2017), hereinafter referred as the "act", the Chairman of the Civil Aviation Authority of Bangladesh is pleased to make Amendment 2 to the Air Navigation Order (ANO), "ANO-10 Vol-3 Part I on Digital Data Communication Systems" in the following manner, namely:—

1. **New definitions shall be inserted under regulation 3.1, namely: —**

   "***Intermediate system (IS).*** A system which performs relaying and routing functions and comprises the lowest three layers of the OSI reference model.

   Multilink. The ability to use more than one available air-ground subnetworks in order to provide the required performance.

   Router. A router is a node that forwards Internet protocol (IP) packets not explicitly addressed to itself. A router manages the relaying and routing of data while in transit from an originating end system to a destination end system."

2. **The existing text of regulation Chapter 3 shall be replaced by the following new text, namely: —**

   "*Note 1.— Detailed technical specifications for ATN/OSI applications are contained in the* Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols (Doc 9880).

   Note 2.— Detailed technical specifications for ATN/IPS applications are contained in the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896) (available electronically on the ICAO-Net).

   Note 3.— ATN requirements specified in this ANO, apply for both ATN/OSI and ATN/IPS"

3. **The existing text of regulation 3.2.1 shall be replaced by the following new text, namely: —**

   "3.2.1 The ATN is specifically and exclusively intended to provide voice and data communications services to air traffic services provider organizations and aircraft operators in support of:

   ..."

4. **The existing text of regulation 3.4 shall be replaced by the following new text, namely: —**

   "3.4.1 The ATN shall either use International Organization for Standardization (ISO) communication standards for open systems interconnection (OSI) or use the Internet Society (ISOC) communications standards for the Internet Protocol Suite (IPS).

   Note.— Guidance material on interoperability between ATN/OSI and ATN/IPS is contained in Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896).

   3.4.2 The AFTN/AMHS gateway shall ensure the interoperability of AFTN and CIDIN stations and networks with the ATN.

   3.4.3 The ATN shall transmit, relay and deliver messages in accordance with the QoS required for the ATN operation.

3.4.4 The ATN shall transmit, relay and deliver messages in accordance with the applicable security policy.

3.4.5 The ATN shall transmit, relay and deliver messages in accordance with the applicable routing policy.

Note. — The QoS as well as the applicable security and routing policies are predetermined and agreed by the entity responsible (such as air traffic services provider and/or aircraft operator) for the specific traffic types.

3.4.6 The ATN shall provide communication in accordance with the prescribed required communication performance (RCP) specification and the required surveillance performance (RSP) specification.

Note.— For more guidance on RCP and RSP specifications, refer to the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).

3.4.7 The ATN shall operate in accordance with the communication priorities defined in Table 3-1 and Table 3-2.

3.4.8 The ATN shall notify the appropriate application(s) if a message cannot be successfully delivered.

Note. — It is the responsibility of the ATN upper layer communications services, such as a dialogue service, to determine the successful delivery of a message to the communicating peer and to notify a delivery failure event to the message originator and associated application in the absence of a delivery confirmation from the peer.

3.4.9 The ATN shall make provisions for the efficient use of limited bandwidth subnetworks.

3.4.10 ATN/IPS shall be capable of supporting multilink

Note 1.—. For guidance, refer to the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocol (Doc 9896).

Note 2 — ATN/OSI may also be used to support multilink. For relevant guidance, refer to Technical Specifications for ATN using ISO/OSI Standards and Protocols (Doc 9880).

3.4.11 Where the absolute time of day is used within the ATN, it shall be accurate to within 1 second of coordinated universal time (UTC).

Note.— The time accuracy value results in synchronization errors of up to two seconds."

5. The existing text of regulation 3.5.1 shall be replaced by the following new text, namely: —

"3.5.1 System applications

Note.— System applications provide services that are necessary for operation of the ATN.

3.5.1.1 The ATN shall support the data link initiation capability (DLIC) applications when air-ground data links are implemented.

Note.— The Global Operational Data Link (GOLD) Manual (Doc 10037) *provides guidance on the use of the DLIC applications.*

3.5.1.2 The ATN shall support the following directory services (DIR) functions when ATSMHS is implemented:

a) directory information retrieval; and
b) directory information modification.

Note.— DIR can also be used when security protocols are implemented."

6. The existing text of regulation 3.5.2.1 shall be replaced by the following new text, namely: —

"3.5.2.1 The ATN shall be capable of supporting the following applications:

a) ADS-C; and
b) CPDLC;

Note.— The Global Operational Data Link (GOLD) Manual (Doc 10037) *provides guidance on the use of ADS-C and CPDLC."*

7. The existing text of regulation 3.5.3.1 shall be replaced by the following new text, namely: —

"3.5.3.1 The ATN shall be capable of supporting the following applications:

a) ATS interfacility data communication (AIDC);
b) ATS message handling services applications (ATSMHS);
c) aeronautical voice communications; and
d) system-wide information management (SWIM)-enabled applications.

Note.— See the Manual of Air Traffic Services Data Link Applications (Doc 9694)."

8. The existing text of regulation 3.6 shall be replaced by the following new text, namely: —

"3.6 ATN NAMING AND ADDRESSING REQUIREMENTS

Note.— The ATN naming and addressing scheme supports the principles of unambiguous identification of intermediate systems (routers) and end-systems (hosts) and provides global address standardization.

3.6.1 The ATN shall provide provisions for unambiguous application identification.

3.6.2 The ATN shall have the capability to uniquely identify source and destination entities.

3.6.3 The ATN shall provide means to uniquely address all ATN end-systems (hosts) and intermediate systems (routers).

3.6.4 The ATN addressing and naming plans shall allow States and organizations to assign addresses and names within their own administrative domains."

9. The existing text of regulation 3.7 shall be replaced by the following new text, namely: —

"3.7 ATN SECURITY REQUIREMENTS

3.7.1 The ATN shall make provisions whereby only the controlling ATS unit may provide ATC instructions to aircraft operating in its airspace.

3.7.2 The ATN shall enable the recipient of a message to identify the originator of that message.

3.7.3 ATN end-systems supporting ATN security services shall be capable of authenticating the identity of peer end systems, authenticating the source of messages and ensuring the data integrity of the messages.

Note.— The capability to authenticate the identity of peer end-systems is intended to provide protection against spoofing, "phantom controllers" or "phantom aircraft".

3.7.4 The ATN services shall be protected against service attacks to a level consistent with the application service requirements and to a level commensurate with security risks and applicable security policy.

Note.— Detailed information on security risks and applicable policy for ATN and their mitigation are provided in the Manual of Security Risk Assessment (SRA) for Aeronautical Communications (Doc 10145). "

10. The existing text of regulation 3.8 shall be deleted.

11. The existing text of Chapter five title shall be replaced with "CHAPTER 5. [To be developed]" and the existing content of chapter 5 shall be deleted.

12. This Amendment 2 to the Air Navigation Order (ANO), "ANO-10 Vol-3 Part I on Digital Data Communication Systems" shall come into force on the date of publication in the Official Gazette.

Air Vice Marshal Md. Mostafa Mahmood Siddiq
BSP, GUP, ndc, afwc, acsc, psc
Chairman
Civil Aviation Authority of Bangladesh

Amendment 1 to the Air Navigation Order (ANO), "ANO-10 Vol-3 Part II on Voice Communication Systems" in order to incorporate up to Amendment 94 to Annex 10 Volume III to the Convention on International Civil Aviation:

Civil Aviation Authority of Bangladesh
GAZETTE
Dated: , Dhaka

In exercise of the power conferred by section 47, read with section 14 of the Civil Aviation Act 2017 (Act No 18 of 2017), hereinafter referred as the "act", the Chairman of the Civil Aviation Authority of Bangladesh is pleased to make Amendment 1 to the Air Navigation Order (ANO), "ANO-10 Vol-3 Part II on Voice Communication Systems" in the following manner, namely: —

1. **The existing text of regulation chapter 4 shall be replaced by the following new text, namely: —**

"CHAPTER 4. AERONAUTICAL VOICE COMMUNICATIONS

4.1 TECHNICAL PROVISIONS RELATING TO AERONAUTICAL VOICE COMMUNICATIONS FOR GROUND-GROUND APPLICATIONS

Note 1.— Detailed specifications and guidance material on the implementation of aeronautical Voice over Internet Protocol (VoIP) communications for ground-ground applications are contained in the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896). *Aeronautical VoIP communications for ground-ground applications include inter-ATS unit telephony and radio air-ground applications on the ground component between the ATS unit and the air-ground control radio station, which is responsible for handling communications pertaining to the operation and control of aircraft in a given area.*

Note 2.— Guidance material on the implementation of the speech circuits supported by air traffic services (ATS) ground-ground voice switching and signalling is contained in the Manual on Air Traffic Services (ATS) Ground-Ground Voice Switching and Signalling (Doc 9804).

4.1.1 The use of circuit switching and signalling to provide speech circuits to interconnect ATS units not interconnected by dedicated circuits shall be by agreement between the Administrations concerned.

4.1.2 The application of aeronautical speech circuit switching and signalling shall be made on the basis of regional air navigation agreements.

4.1.3 The operation of dedicated aeronautical VoIP communications for ground-ground applications to interconnect ATS units shall be performed based on an agreement between the administrations concerned.

4.1.4 Implementation of aeronautical VoIP communications for ground-ground applications shall be made on the basis of a regional agreement.

4.1.5 The ATC communication requirements defined in ANO 11, Section 6.2 shall be met by implementation of one or more of the following basic three call types:

a) instantaneous access;
b) direct access; and
c) indirect access.

Note.— Guidance on call types can be found in the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896).

4.1.6 In addition to the ability to make basic telephone calls, the following functions shall be provided in order to meet the requirements set out in Annex 11:

a) means of indicating the calling/called party identity;
b) means of initiating urgent/priority calls; and
c) conference capabilities.

4.1.7 To take advantage of the benefits of interconnecting regional and national aeronautical speech networks, the international aeronautical telephone network numbering scheme shall be used."

2. This Amendment 1 to the Air Navigation Order (ANO), "ANO-10 Vol-3 Part II on Voice Communication Systems" shall come into force on the date of publication in the Official Gazette.

Air Vice Marshal Md. Mostafa Mahmood Siddiq
BSP, GUP, ndc, afwc, acsc, psc
Chairman
Civil Aviation Authority of Bangladesh

SUMMARY OF CHANGES

Amendment 93 to Annex 10, Volume III — Communication Systems

The table below summarizes the changes introduced by Amendment 93 to Annex 10, Volume III, Part I (Digital Data Communication Systems) and Part II (Voice Communication Systems)

Type of change	Location	Existing text	Amended text	Comment
New text to be inserted	Part I, Chapter 1, Definitions	-	Intermediate system (IS). A system which performs relaying and routing functions and comprises the lowest three layers of the OSI reference model.	*New definition added.*
New text to be inserted	Part I, Chapter 1, Definitions	-	Multilink. The ability to use more than one available air-ground subnetworks in order to provide the required performance.	*New definition added.*
New text to be inserted	Part I, Chapter 1, Definitions	-	Router. A router is a node that forwards Internet protocol (IP) packets not explicitly addressed to itself. A router manages the relaying and routing of data while in transit from an originating end system to a destination end system.	*New definition added.*
New text to replace existing text	Chapter 3, heading Note 1	Note 1.— Detailed technical specifications for ATN/OSI applications are contained in the Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols (Doc 9880) and in the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) (Doc 9705).	Note 1.— Detailed technical specifications for ATN/OSI applications are contained in the Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols (Doc 9880).	*Reference to Doc 9705 (Manual of Technical Provisions for the ATN) deleted.*
New text to replace existing text	Chapter 3, heading Note 2	Note 2.— Detailed technical specifications for ATN/IPS applications are contained in the Manual for the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896) (available electronically on the ICAO-Net).	Note 2.— Detailed technical specifications for ATN/IPS applications are contained in the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896).	*"for" replaced with "on"; parenthetical "(available electronically on the ICAO-Net)" deleted.*
New text to be inserted	Chapter 3, heading Note 3	-	Note 3.— ATN requirements specified in this Annex, apply for both ATN/OSI and ATN/IPS.	*New Note added.*

Type of change	Location	Existing text	Amended text	Comment
New text to replace existing text	3.2.1	The ATN is specifically and exclusively intended to provide digital data communications services to air traffic service provider organizations and aircraft operating agencies in support of:	The ATN is specifically and exclusively intended to provide voice and data communications services to air traffic services provider organizations and aircraft operators in support of:	*"digital" deleted, "voice and" inserted; "operating agencies" replaced with "operators".*
Text to be deleted	3.4.1, Note 1	Note 1.— ATN/IPS implementation is preferred for ground-ground networks. While ATN/OSI continues to be supported in air-ground networks, particularly when using VDL Mode 2, it is expected that future air-ground implementations will use the ATN/IPS.	-	*Note deleted in its entirety.*
Text to be deleted	3.4.1, Note 2	Note 2.— Interoperability between interconnecting OSI/IPS networks is expected to be arranged prior to implementation.	-	*Note deleted in its entirety.*
Renumbering only	3.4.1, Note 3 → Note	Note 3.— Guidance material on interoperability between ATN/OSI and ATN/IPS is contained in Doc 9896.	Note.— Guidance material on interoperability between ATN/OSI and ATN/IPS is contained in Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896).	*Renumbered from "Note 3" to the sole remaining Note following deletion of Notes 1 and 2; text otherwise unchanged.*
Text to be deleted	3.4.3	3.4.3 An authorized path(s) shall be defined on the basis of a predefined routing policy.	-	*Paragraph deleted in its entirety.*
New text to replace existing text	3.4.4 → 3.4.3	3.4.4 The ATN shall transmit, relay and deliver messages in accordance with the priority classifications and without discrimination or undue delay.	3.4.3 The ATN shall transmit, relay and deliver messages in accordance with the QoS required for the ATN operation.	*Renumbered from 3.4.4 to 3.4.3; "priority classifications and without discrimination or undue delay" replaced with "QoS required for the ATN operation".*
New text to be inserted	New 3.4.4	-	3.4.4 The ATN shall transmit, relay and deliver messages in accordance with the applicable security policy.	*New paragraph added.*
Text to be deleted	3.4.5	3.4.5 The ATN shall provide means to define data communications that can be carried only over authorized paths for the traffic type and category specified by the user.	-	*Paragraph deleted in its entirety.*

Type of change	Location	Existing text	Amended text	Comment
New text to be inserted	New 3.4.5	-	3.4.5 The ATN shall transmit, relay and deliver messages in accordance with the applicable routing policy.	*New paragraph added.*
New text to be inserted	Note after new 3.4.5	-	Note.— The QoS as well as the applicable security and routing policies are predetermined and agreed by the entity responsible (such as air traffic services provider and/or aircraft operator) for the specific traffic types.	*New Note added.*
New text to replace existing text	3.4.6	3.4.6 The ATN shall provide communication in accordance with the prescribed required communication performance (RCP).	3.4.6 The ATN shall provide communication in accordance with the prescribed required communication performance (RCP) specification and the required surveillance performance (RSP) specification.	*Reference to RSP specification added.*
New text to replace existing text	3.4.6, Note	Note.— The Manual on Required Communication Performance (RCP) (DOC 9869) contains the necessary information on RCP.	Note.— For more guidance on RCP and RSP specifications, refer to the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).	*Note reworded to reference the PBCS Manual (Doc 9869) and cover both RCP and RSP.*
Text to be deleted	3.4.8 (original)	3.4.8 The ATN shall enable exchange of application information when one or more authorized paths exist.		*Paragraph deleted in its entirety.*
New text to replace existing text	3.4.9 → 3.4.8	3.4.9 The ATN shall notify the appropriate application processes when no authorized path exists.	3.4.8 The ATN shall notify the appropriate application(s) if a message cannot be successfully delivered.	*Renumbered from 3.4.9 to 3.4.8; "processes when no authorized path exists" replaced with "if a message cannot be successfully delivered".*
New text to be inserted	Note after 3.4.8	-	Note.— It is the responsibility of the ATN upper layer communications services, such as a dialogue service, to determine the successful delivery of a message to the communicating peer and to notify a delivery failure event to the message originator and associated application in the absence of a delivery confirmation from the peer.	*New Note added.*
Renumbering only	3.4.10 → 3.4.9	3.4.10 The ATN shall make provisions for the efficient use of limited bandwidth subnetworks.	3.4.9 The ATN shall make provisions for the efficient use of limited bandwidth subnetworks.	*Renumbered only; text unchanged.*
New text to be inserted	New 3.4.10 and accompanying Notes 1–2	-	3.4.10 ATN/IPS shall be capable of supporting multilink.	*New paragraph and two new Notes added.*

Type of change	Location	Existing text	Amended text	Comment
			Note 1.— For guidance, refer to the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocol (Doc 9896). Note 2.— ATN/OSI may also be used to support multilink. For relevant guidance, refer to Technical Specifications for ATN using ISO/OSI Standards and Protocols (Doc 9880).	
Text to be deleted	3.4.11 (original)	3.4.11 Recommendation.— The ATN should enable an aircraft intermediate system (router) to connect to a ground intermediate system (router) via different subnetworks.	-	*Recommendation deleted in its entirety.*
Text to be deleted	3.4.12 (original)	3.4.12 Recommendation.— The ATN should enable an aircraft intermediate system (router) to connect to different ground intermediate systems (routers).	-	*Recommendation deleted in its entirety.*
Text to be deleted	3.4.13 (original)	3.4.13 The ATN shall enable the exchange of address information between applications.	-	*Paragraph deleted in its entirety.*
Renumbering only	3.4.14 → 3.4.11	3.4.14 Where the absolute time of day is used within the ATN, it shall be accurate to within 1 second of coordinated universal time (UTC).	3.4.11 Where the absolute time of day is used within the ATN, it shall be accurate to within 1 second of coordinated universal time (UTC).	*Renumbered only; text unchanged.*
New text to replace existing text	3.5.1.1, Note	Note.— The Manual of Air Traffic Services Data Link Applications (Doc 9694, Part I) defines the use of the DLIC applications.	Note.— Global Operational Data Link (GOLD) Manual (Doc 10037) provides guidance on the use of the DLIC applications.	*Reference changed from Doc 9694, Part I to the GOLD Manual (Doc 10037).*
New text to replace existing text	3.5.1.2	3.5.1.2 The ATN/OSI end-system shall support the following directory services (DIR) application functions when AMHS and/or security protocols are implemented:	3.5.1.2 The ATN shall support the following directory services (DIR) application functions when ATSMHS is implemented:	*"/OSI end-system" deleted; "and/or security protocols are" deleted, replaced with "is".*
New text to be inserted	Note after 3.5.1.2	-	Note.— DIR can also be used when security protocols are implemented.	*New Note added.*
New text to replace existing text	3.5.2.1	3.5.2.1 The ATN shall be capable of supporting one or more of the following applications: a) ADS-C; b) CPDLC; and c) FIS (including ATIS and METAR).	3.5.2.1 The ATN shall be capable of supporting the following applications: a) ADS-C; and b) CPDLC.	*"one or more of" deleted; item c) FIS (including ATIS and METAR) deleted.*

Type of change	Location	Existing text	Amended text	Comment
New text to replace existing text	3.5.2, Note	Note.— See the Manual of Air Traffic Services Data Link Applications (Doc 9694).	Note.— Manual of Air Traffic Services Data Link Applications (Doc 9694). The Global Operational Data Link (GOLD) Manual (Doc 10037) provides guidance on the use of ADS-C and CPDLC.	*Note expanded to add reference to the GOLD Manual (Doc 10037).*
New text to replace existing text	3.5.3.1	3.5.3.1 The ATN shall be capable of supporting the following applications: a) ATS interfacility data communication (AIDC); and b) ATS message handling services applications (ATSMHS).	3.5.3.1 The ATN shall be capable of supporting the following applications: a) ATS interfacility data communication (AIDC); b) ATS message handling services applications (ATSMHS); c) aeronautical voice communications; and d) system-wide information management (SWIM)-enabled applications.	*New items c) aeronautical voice communications and d) SWIM-enabled applications added.*
Text to be deleted	3.6 (entire section) — "ATN COMMUNICATIONS SERVICE REQUIREMENTS"	3.6 ATN COMMUNICATIONS SERVICE REQUIREMENTS 3.6.1 ATN/IPS upper layer communications service — 3.6.1.1 An ATN host* shall be capable of supporting the ATN/IPS upper layers including an application layer. 3.6.2 ATN/OSI upper layer communications service — 3.6.2.1 An ATN/OSI end-system (ES)* shall be capable of supporting the OSI upper layer communications service (ULCS) including session, presentation and application layers. 3.6.3 ATN/IPS communications service — 3.6.3.1 An ATN host shall be capable of supporting the ATN/IPS including the: a) transport layer in accordance with RFC 793 (TCP) and RFC 768 (UDP); and b) network layer in accordance with RFC 2460 (IPv6). 3.6.3.2 An IPS router shall support the ATN network layer in accordance with RFC 2460 (IPv6) and RFC 4271 (BGP), and RFC 2858 (BGP multiprotocol extensions). 3.6.4 ATN/OSI communications service — 3.6.4.1 An ATN end-system shall be capable of supporting the ATN including the: a) transport layer in accordance with ISO/IEC 8073 (TP4) and optionally ISO/IEC 8602 (CLTP); and b)	-	*Entire section (3.6.1 through 3.6.4.2) and its footnote deleted. An Editorial Note instructs renumbering of all subsequent paragraphs; former 3.7 becomes 3.6, former 3.8 becomes 3.7.*

Type of change	Location	Existing text	Amended text	Comment
		network layer in accordance with ISO/IEC 8473 (CLNP). 3.6.4.2 An ATN intermediate system (IS) shall support the ATN network layer in accordance with ISO/IEC 8473 (CLNP) and ISO/IEC 10747 (IDRP). * An ATN host is an ATN end-system in OSI terminology; an ATN end-system is an ATN host in IPS terminology. [footnote]		
Renumbering only	3.7 → 3.6 — "ATN NAMING AND ADDRESSING REQUIREMENTS"	3.7 ATN NAMING AND ADDRESSING REQUIREMENTS	3.6 ATN NAMING AND ADDRESSING REQUIREMENTS	*Section renumbered as a consequence of the deletion of former Section 3.6.*
New text to replace existing text	3.7.2 → 3.6.2	3.7.2 The ATN shall provide provisions for unambiguous addressing.	3.6.2 The ATN shall have the capability to uniquely identify source and destination entities.	*Renumbered from 3.7.2 to 3.6.2; text substantially reworded.*
New text to replace existing text	3.7.3 → 3.6.3	3.7.3 The ATN shall provide means to unambiguously address all ATN end-systems (hosts) and intermediate systems (routers).	3.6.3 The ATN shall provide means to uniquely address all ATN end-systems (hosts) and intermediate systems (routers).	*Renumbered from 3.7.3 to 3.6.3; "unambiguously" replaced with "uniquely".*
Text to be deleted	Note after 3.7.3 / 3.6.3	Note.— An ATN end-system is an ATN host in IPS terminology; An ATN host is an ATN end-system in OSI terminology.	-	*Note deleted in its entirety.*
Renumbering only	3.8 → 3.7 — "ATN SECURITY REQUIREMENTS"	3.8 ATN SECURITY REQUIREMENTS	3.7 ATN SECURITY REQUIREMENTS	*Section renumbered as a consequence of the deletion of former Section 3.6.*
Renumbering only	3.8.1 → 3.7.1	3.8.1 The ATN shall make provisions whereby only the controlling ATS unit may provide ATC instructions to aircraft operating in its airspace.	3.7.1 The ATN shall make provisions whereby only the controlling ATS unit may provide ATC instructions to aircraft operating in its airspace.	*Renumbered only; text unchanged.*
Text to be deleted	Note after 3.8.1 / 3.7.1	Note.— This is achieved through the current and next data authority aspects of the controller-pilot data link communications (CPDLC) application.	-	*Note deleted in its entirety.*
New text to replace existing text	3.8.3 → 3.7.3, Note	Note.— The use of security is the default; however, its implementation is based on local policy.	Note.— The capability to authenticate the identity of peer end-systems is intended to provide protection against spoofing, "phantom controllers" or "phantom aircraft".	*3.8.3 renumbered to 3.7.3 (text unchanged); its accompanying Note reworded as shown.*

Type of change	Location	Existing text	Amended text	Comment
New text to replace existing text	3.8.4 → 3.7.4	3.8.4 The ATN services shall be protected against service attacks to a level consistent with the application service requirements.	3.7.4 The ATN services shall be protected against service attacks to a level consistent with the application service requirements and to a level commensurate with security risks and applicable security policy.	*Renumbered from 3.8.4 to 3.7.4; text expanded.*
New text to be inserted	Note after 3.7.4	-	Note.— Detailed information on security risks and applicable policy for ATN and their mitigation are provided in the Manual of Security Risk Assessment (SRA) for Aeronautical Communications (Doc 10145).	*New Note added.*
Text to be deleted	Chapter 5.	CHAPTER 5. SSR MODE S AIR-GROUND DATA LINK	CHAPTER 5. [To be developed] Delete the contents of Chapter 5 but retain the Chapter heading as shown above.	*Chapter 5 deleted entirely*
PART II — VOICE COMMUNICATION SYSTEMS				
New text to replace existing text	Chapter 4 heading	CHAPTER 4. AERONAUTICAL SPEECH CIRCUITS	CHAPTER 4. AERONAUTICAL VOICE COMMUNICATIONS	*"SPEECH CIRCUITS" replaced with "VOICE COMMUNICATIONS".*
New text to replace existing text	4.1 heading	4.1 TECHNICAL PROVISIONS RELATING TO INTERNATIONAL AERONAUTICAL SPEECH CIRCUIT SWITCHING AND SIGNALLING FOR GROUND-GROUND APPLICATIONS	4.1 TECHNICAL PROVISIONS RELATING TO AERONAUTICAL SPEECH VOICE COMMUNICATIONS FOR GROUND-GROUND APPLICATIONS	*"INTERNATIONAL" deleted; "CIRCUIT SWITCHING AND SIGNALLING" replaced with "VOICE COMMUNICATIONS".*
New text to replace existing text	4.1, Note 1	Note 1.— Guidance material on the implementation of aeronautical speech circuit switching and signalling for ground-ground applications is contained in the Manual on Air Traffic Services (ATS) Ground-Ground Voice Switching and Signalling (Doc 9804). The material includes explanation of terms, performance parameters, guidance on basic call types and additional functions, references to appropriate ISO/IEC international standards and ITU-T recommendations, guidance on the use of signalling systems, details of the recommended numbering scheme and guidance on migration to future schemes.	Note 1.— Detailed specifications and guidance material on the implementation of aeronautical Voice over Internet Protocol (VoIP) communications for ground-ground applications are contained in the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896). Aeronautical VoIP communications for ground-ground applications include inter-ATS unit telephony and radio air-ground applications on the ground component between the ATS unit and the air-ground control radio station, which is responsible for handling communications pertaining to the operation and control of aircraft in a given area.	*Note substantially reworded: references switched from circuit-switched voice/signalling and Doc 9804 to VoIP and Doc 9896; explanatory sentence on scope of terms deleted and replaced with a description of aeronautical VoIP communications.*
New text to be inserted	4.1, new Note 2	-	Note 2.— Guidance material on the implementation of the speech circuits supported by air traffic services	*New Note added, retaining the reference to Doc 9804 for legacy*

Type of change	Location	Existing text	Amended text	Comment
			(ATS) ground-ground voice switching and signalling is contained in the Manual on Air Traffic Services (ATS) Ground-Ground Voice Switching and Signalling (Doc 9804).	*speech-circuit guidance.*
New text to be inserted	New 4.1.3	-	4.1.3 The operation of dedicated aeronautical VoIP communications for ground-ground applications to interconnect ATS units shall be performed based on an agreement between the administrations concerned.	*New paragraph added.*
New text to be inserted	New 4.1.4	-	4.1.4 Implementation of aeronautical VoIP communications for ground-ground applications shall be made on the basis of a regional agreement.	*New paragraph added.*
Renumbering only	4.1.3 → 4.1.5	4.1.3 Recommendation.— The ATC communication requirements defined in Annex 11, Section 6.2 should be met by implementation of one or more of the following basic three call types: a) instantaneous access; b) direct access; and c) indirect access.	4.1.5 Recommendation.— The ATC communication requirements defined in Annex 11, Section 6.2 should be met by implementation of one or more of the following basic three call types: a) instantaneous access; b) direct access; and c) indirect access.	*Renumbered only; text unchanged.*
New text to be inserted	Note after 4.1.5	-	Note.— Guidance on call types can be found in the Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896).	*New Note added.*
Renumbering only	4.1.4 → 4.1.6	4.1.4 Recommendation.— In addition to the ability to make basic telephone calls, the following functions should be provided in order to meet the requirements set out in Annex 11: a) means of indicating the calling/called party identity; b) means of initiating urgent/priority calls; and c) conference capabilities.	4.1.6 Recommendation.— In addition to the ability to make basic telephone calls, the following functions should be provided in order to meet the requirements set out in Annex 11: a) means of indicating the calling/called party identity; b) means of initiating urgent/priority calls; and c) conference capabilities.	*Renumbered only; text unchanged.*
Text to be deleted	4.1.5 (original)	4.1.5 Recommendation.— The characteristics of the circuits used in aeronautical speech circuit switching and signalling should conform to appropriate ISO/IEC international standards and ITU-T recommendations.	-	*Recommendation deleted in its entirety.*
Text to be deleted	4.1.6 (original)	4.1.6 Recommendation.— Digital signalling systems should be used wherever their use can be justified in terms of any of the following: a) improved quality of service; b) improved user	-	*Recommendation deleted in its entirety.*

Type of change	Location	Existing text	Amended text	Comment
		facilities; or c) reduced costs where quality of service is maintained.		
Text to be deleted	4.1.7 (original)	4.1.7 Recommendation.— The characteristics of supervisory tones to be used (such as ringing, busy, number unobtainable) should conform to appropriate ITU-T recommendations.	-	*Recommendation deleted in its entirety.*
New text to replace existing text	4.1.8 → 4.1.7	4.1.8 Recommendation.— To take advantage of the benefits of interconnecting regional and national aeronautical speech networks, the international aeronautical telephone network numbering scheme should be used.	4.1.7 Recommendation.— To take advantage of the benefits of interconnecting regional and national aeronautical legacy voice networks, an international aeronautical telephone network numbering scheme should be used.	*Renumbered from 4.1.8 to 4.1.7; "speech" replaced with "legacy voice"; "the" replaced with "an".*