PANS ATM CHECKLIST[1]

based on ICAO PANS ATM Doc 4444 ATM/501

Fifteenth Edition — 2007

(including amendments introduced with ICAO AN-WP/9014 of 18/2/16 titled 'APPROVAL OF AMENDMENT 7 TO THE PROCEDURES FOR AIR NAVIGATION SERVICES — AIR TRAFFIC MANAGEMENT (PANS-ATM, DOC 4444)')

[1] The present document is published as information material associated with NPA 2016-09.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	CHAPTER 1. DEFINITIONS *Note 1.— Throughout the text of this document the term "service" is used as an abstract noun to designate functions, or service rendered; the term "unit" is used to designate a collective body performing a service.* *Note 2.— All references to "Radio Regulations" are to the Radio Regulations published by the International Telecommunication Union (ITU). Radio Regulations are amended from time to time by the decisions embodied in the Final Acts of World Radiocommunication Conferences held normally every two to three years. Further information on the ITU processes as they relate to aeronautical radio system frequency use is contained in the* Handbook on Radio Frequency Spectrum Requirements for Civil Aviation including statement of approved ICAO policies *(Doc 9718).*	
	Accepting unit/controller. Air traffic control unit/air traffic controller next to take control of an aircraft. *Note.— See definition of "transferring unit/controller".*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation, as follows: **'Accepting controller' means air traffic controller next to take control of an aircraft.** **'Accepting unit' means ATC unit next to take control of an aircraft.**
	ADS-C agreement. A reporting plan which establishes the conditions of ADS-C data reporting (i.e. data required by the air traffic services unit and frequency of ADS-C reports which have to be agreed to prior to using ADS-C in the provision of air traffic services). *Note.— The terms of the agreement will be exchanged between the ground system and the aircraft by means of a contract, or a series of contracts.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Advisory airspace. An airspace of defined dimensions, or designated route, within which air traffic advisory service is available.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Advisory route. A designated route along which air traffic advisory service is available. *Note.— Air traffic control service provides a much more complete service than air traffic advisory service; advisory areas and routes are therefore not established within controlled airspace, but air traffic advisory service may be provided below and above control areas.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft. *Note.— The term "aerodrome" where used in the provisions relating to flight plans and ATS messages is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.*	The EU definition of aerodrome, established by Regulation (EC) No 216/2008, its implementing rules, as well as the SERA Regulation Article 2(6), is as follows, and derogates from the definition provided in Annex 11 for the text underlined: **'aerodrome' shall mean a defined area (including any buildings, installations and equipment) on land or water <u>or on a fixed, fixed offshore or floating structure</u> intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft. Slight difference with Annex 11 definition, in bold.**
	Aerodrome control service. Air traffic control service for aerodrome traffic.	Definition not transposed as ATS-related definition; exhaustive definition and explanation on ATC service is provided within the set of measures.
	Aerodrome control tower. A unit established to provide air traffic control service to aerodrome traffic.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aerodrome elevation. The elevation of the highest point of the landing area.	Definition not transposed.
	Aerodrome traffic. All traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome. *Note.— An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Aerodrome traffic circuit. The specified path to be flown by aircraft operating in the vicinity of an aerodrome.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aeronautical fixed service (AFS). A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.	Definition already included in Annex I to the ATM/ANS Common Requirements Regulation.
	Aeronautical fixed station. A station in the aeronautical fixed service.	Definition not transposed.
	Aeronautical ground light. Any light specially provided as an aid to air navigation, other than a light displayed on an aircraft.	Definition not transposed.
	Aeronautical Information Publication (AIP). A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.	Definition proposed with NPA 2016-02 for inclusion in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aeronautical mobile service (RR S1.32). A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aeronautical station (RR S1.81). A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aeronautical telecommunication station. A station in the aeronautical telecommunication service.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition is identical and transposed in Part-ATS.

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	Airborne collision avoidance system (ACAS). An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.	Definition already included in Annex I to the ATM/ANS Regulation.
	Aircraft address. A unique combination of 24 bits available for assignment to an aircraft for the purpose of air-ground communications, navigation and surveillance.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aircraft identification. A group of letters, figures or a combination thereof which is either identical to, or the coded equivalent of, the aircraft call sign to be used in air-ground communications, and which is used to identify the aircraft in ground-ground air traffic services communications.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Aircraft observation. The evaluation of one or more meteorological elements made from an aircraft in flight.	Definition not transposed.
	Aircraft proximity. A situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised. An aircraft proximity is classified as follows: *Risk of collision.* The risk classification of an aircraft proximity in which serious risk of collision has existed. *Safety not assured.* The risk classification of an aircraft proximity in which the safety of the aircraft may have been compromised. *No risk of collision.* The risk classification of an aircraft proximity in which no risk of collision has existed. *Risk not determined.* The risk classification of an aircraft proximity in which	Definition identical to the one included already in the SERA Regulation.

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	insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.	
	Air-ground communication. Two-way communication between aircraft and stations or locations on the surface of the earth.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	AIRMET information. Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of low-level aircraft operations and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof.	Definition already included in Annex I to the ATM/ANS Common Requirements Regulation, as 'AIRMET message'. Definition identical to the one included already in the SERA Regulation.
	AIRPROX. The code word used in an air traffic incident report to designate aircraft proximity.	Definition not transposed.
	Air-report. A report from an aircraft in flight prepared in conformity with requirements for position, and operational and/or meteorological reporting.	Definition already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Air-taxiing. Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt). *Note.— The actual height may vary, and some helicopters may require air-taxiing above 8 m (25 ft) AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Air-to-ground communication. One-way communication from aircraft to stations or locations on the surface of the earth.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Air traffic. All aircraft in flight or operating on the manoeuvring area of an aerodrome.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation Definition identical to the one included already in the SERA Regulation.
	Air traffic advisory service. A service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Air traffic control clearance. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit. *Note 1.— For convenience, the term "air traffic control clearance" is frequently abbreviated to "clearance" when used in appropriate contexts.* *Note 2.— The abbreviated term "clearance" may be prefixed by the words "taxi", "take-off", "departure", "en-route", "approach" or "landing" to indicate the particular portion of flight to which the air traffic control clearance relates.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Air traffic control instruction. Directives issued by air traffic control for the purpose of requiring a pilot to take a specific action.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Air traffic control service. A service provided for the purpose of: a) preventing collisions: 1) between aircraft, and 2) on the manoeuvring area between aircraft and obstructions; and b) expediting and maintaining an orderly flow of air traffic.	Definition not proposed for transposition; exhaustive definition and explanation on ATC service is provided within the set of measures. Definition identical to the one included already in the SERA Regulation.
	Air traffic control unit. A generic term meaning variously, area control centre, approach control unit or aerodrome control tower.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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		Definition identical to the one included already in the SERA Regulation.
	Air traffic flow management (ATFM). A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority.	Definition not transposed.
	Air traffic management (ATM). The dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.	Definition not transposed.
	Air traffic management system. A system that provides ATM through the collaborative integration of humans, information, technology, facilities and services, supported by air and ground- and/or space-based communications, navigation and surveillance.	Definition not transposed.
	Air traffic service (ATS). A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).	Definition not proposed for transposition; exhaustive definition and explanation on ATS is provided within the set of measures. Definition identical to the one included already in the SERA Regulation.
	Air traffic services airspaces. Airspaces of defined dimensions, alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified. *Note.— ATS airspaces are classified as Class A to G as shown in Annex 11, Appendix 4.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Air traffic services reporting office. A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure. *Note.— An air traffic services reporting office may be established as a separate unit or combined with an existing unit, such as another air traffic services unit, or a unit of the aeronautical information service.*	It is transposed as ATS.TR.110(b). Definition identical to the one included already in the SERA Regulation.
	Air traffic services unit. A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.	Definition already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Airway. A control area or portion thereof established in the form of a corridor.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	ALERFA. The code word used to designate an alert phase.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Alerting service. A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.	Definition not transposed as ATS-related definition; exhaustive definition and explanation on Alerting service is provided within the set of measures. Definition identical to the one included already in the SERA Regulation.
	Alert phase. A situation wherein apprehension exists as to the safety of an aircraft and its occupants.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Allocation, allocate. Distribution of frequencies, SSR codes, etc. to a State, unit or service. Distribution of 24-bit aircraft addresses to a State or common mark registering authority.	Definition not transposed.
	Alphanumeric characters (alphanumerics). A collective term for letters and figures (digits).	Definition not transposed.

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	Alternate aerodrome. An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate aerodromes include the following: *Take-off alternate.* An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure. *En-route alternate.* An alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route. *Destination alternate*. An alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing. *Note.— The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.*	It is already included in Annex I to the ATM/ANS Common Requirements Regulation, where definitions of 'destination alternate', 'en-route alternate' and 'take-off alternate' are established separately. Definition included already in the SERA Regulation containing also "ETOPS en-route alternate' with a meaning of a suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en route in an ETOPS operation".
	Altitude. The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Approach control service. Air traffic control service for arriving or departing controlled flights.	Definition not transposed as ATS-related definition; exhaustive definition and explanation on approach control service is provided within the set of measures. Definition identical to the one included already in the SERA Regulation.
	Approach control unit. A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Approach sequence. The order in which two or more aircraft are cleared to approach to land at the aerodrome.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Appropriate ATS authority. The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.	Definition not proposed for transposition as not applicable to the EU context, which allocate responsibilities to Members States, competent authority, service provider.
	Appropriate authority. a) Regarding flight over the high seas: The relevant authority of the State of Registry. b) Regarding flight other than over the high seas: The relevant authority of the State having sovereignty over the territory being overflown.	Definition not transposed.
	Apron. A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.	The EU definition of apron is established by Regulation (EC) No 216/2008. Definition identical to the one included already in the SERA Regulation.
	Area control centre (ACC). A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Area control service. Air traffic control service for controlled flights in control areas.	Definition not transposed as ATS-related definition; exhaustive definition and explanation on area control service is provided within the set of measures. Definition identical to the one included already in the SERA Regulation.
	Area navigation (RNAV). A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Area navigation route. An ATS route established for the use of aircraft capable of employing area navigation.	Definition not transposed.
	Assignment, assign. Distribution of frequencies to stations. Distribution of SSR codes or 24-bit aircraft addresses to aircraft.	Definition not transposed.
	ATIS. The symbol used to designate automatic terminal information service.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. definition differs significantly from the one included already in the SERA Regulation.
	ATS route. A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services. *Note 1.— The term "ATS route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.* *Note 2.— An ATS route is defined by route specifications which include an ATS route designator, the track to or from significant points (waypoints), distance between significant points, reporting requirements and, as determined by the appropriate ATS authority, the lowest safe altitude.*	Definition not proposed for transposition as considered suitable for Part-ASD. Definition identical to the one included already in the SERA Regulation.
	ATS surveillance service. A term used to indicate a service provided directly by means of an ATS surveillance system.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	ATS surveillance system. A generic term meaning variously, ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft. *Note.— A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monopulse SSR.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Automatic dependent surveillance — broadcast (ADS-B). A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or	It is transposed in Annex I to the ATM/ANS Common Requirements

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	receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.	Regulation. Definition identical to the one included already in the SERA Regulation.
	Automatic dependent surveillance — contract (ADS-C). A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports. *Note.— The abbreviated term "ADS contract" is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Automatic terminal information service (ATIS). The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specified portion thereof: *Data link-automatic terminal information service (D-ATIS).* The provision of ATIS via data link. *Voice-automatic terminal information service (Voice-ATIS).* The provision of ATIS by means of continuous and repetitive voice broadcasts.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Base turn. A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal. *Note.— Base turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Blind transmission. A transmission from one station to another station in circumstances where two-way communication cannot be established but where it is believed that the called station is able to receive the transmission.	Definition not transposed.
	Broadcast. A transmission of information relating to air navigation that is not addressed to a specific station or stations.	Definition not transposed.

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	Ceiling. The height above the ground or water of the base of the lowest layer of cloud below 6 000 m (20 000 ft) covering more than half the sky.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Clearance limit. The point to which an aircraft is granted an air traffic control clearance.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Code (SS R). The number assigned to a particular multiple pulse reply signal transmitted by a transponder in Mode A or Mode C.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Common point. A point on the surface of the earth common to the tracks of two aircraft, used as a basis for the application of separation (e.g. significant point, waypoint, navigation aid, fix).	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Computer. A device which performs sequences of arithmetical and logical steps upon data without human intervention. *Note.— When the word "computer" is used in this document it may denote a computer complex, which includes one or more computers and peripheral equipment.*	Definition not transposed.
	Control area. A controlled airspace extending upwards from a specified limit above the earth.	Definition not proposed for transposition as considered suitable for Part-ASD. Definition identical to the one included already in the SERA Regulation.
	Controlled aerodrome. An aerodrome at which air traffic control service is provided to aerodrome traffic. *Note.— The term "controlled aerodrome" indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a*	Definition identical to the one in Annex 11: 'controlled aerodrome' means an aerodrome at which air traffic control service is provided to aerodrome traffic. An amendment to the corresponding definition in SERA Article 2 (57) is

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	control zone exists.	proposed.
	Controlled airspace. An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification. *Note.— Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in Annex 11, 2.6.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Controlled flight. Any flight which is subject to an air traffic control clearance.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Controller-pilot data link communications (CPDLC). A means of communication between controller and pilot, using data link for ATC communications.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Control zone. A controlled airspace extending upwards from the surface of the earth to a specified upper limit.	Definition not proposed for transposition as considered suitable for Part-ASD. Definition identical to the one included already in the SERA Regulation.
	CPDLC message. Information exchanged between an airborne system and its ground counterpart. A CPDLC message consists of a single message element or a combination of message elements conveyed in a single transmission by the initiator.	Definition not transposed.
	CPDLC message set. A list of standard message elements and free text message elements	
	Cruise climb. An aeroplane cruising technique resulting in a net increase in altitude as the aeroplane mass decreases.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Cruising level. A level maintained during a significant portion of a flight.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Current data authority. The designated ground system through which a CPDLC dialogue between a pilot and a controller currently responsible for the flight is permitted to take place.	----------
	Current flight plan (CPL). The flight plan, including changes, if any, brought about by subsequent clearances. *Note.— When the word "message" is used as a suffix to this term, it denotes the content and format of the current flight plan data sent from one unit to another.*	Definition identical to the one included already in the SERA Regulation.
	Data convention. An agreed set of rules governing the manner or sequence in which a set of data may be combined into a meaningful communication.	Definition not transposed.
	Data link initiation capability (DLIC). A data link application that provides the ability to exchange addresses, names and version numbers necessary to initiate data link applications.	Definition not transposed.
	Data processing. A systematic sequence of operations performed on data. *Note.— Examples of operations are the merging, sorting, computing or any other transformation or rearrangement with the object of extracting or revising information, or of altering the representation of information.*	Definition not transposed.
	Decision altitude (DA) or decision height (DH). A specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. *Note 1.— Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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	Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In Category III operations with a decision height the required visual reference is that specified for the particular procedure and operation. *Note 3.— For convenience where both expressions are used they may be written in the form "decision altitude/ height"and abbreviated "DA/H".*	
	Dependent parallel approaches. Simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre lines are prescribed.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	DETRESFA. The code word used to designate a distress phase.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Discrete code. A four-digit SSR code with the last two digits not being "00".	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Distress phase. A situation wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition proposed for identical transposition in Part-ATS.
	Elevation. The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Emergency phase. A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition proposed for identical transposition in Part-ATS.

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	Estimated elapsed time. The estimated time required to proceed from one significant point to another.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Estimated off-block time. The estimated time at which the aircraft will commence movement associated with departure.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Estimated time of arrival. For IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Expected approach time. The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing. *Note.— The actual time of leaving the holding fix will depend upon the approach clearance.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition already included in the SERA Regulation with additional text: 'The actual time of leaving the holding fix will depend upon the approach clearance'.
	Filed flight plan (FPL). The flight plan as filed with an ATS unit by the pilot or a designated representative, without any subsequent changes. *Note.— When the word "message" is used as a suffix to this term, it denotes the content and format of the filed flight plan data as transmitted.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Final approach. That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified, a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition proposed for identical transposition in Part-ATS.

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	b) at the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which: 1) a landing can be made; or 2) a missed approach procedure is initiated.	
	Flight crew member. A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.	Definition not transposed.
	Flight information centre. A unit established to provide flight information service and alerting service.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Flight information region (FIR). An airspace of defined dimensions within which flight information service and alerting service are provided.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Flight information service. A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.	Definition not transposed as ATS-related definition; exhaustive definition and explanation on ATS is provided within the set of measures. Definition identical to the one included already in the SERA Regulation.
	Flight level. A surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals. *Note 1.— A pressure type altimeter calibrated in accordance with the Standard Atmosphere:* *a) when set to a QNH altimeter setting, will indicate altitude;* *b) when set to QFE altimeter setting, will indicate height above the QFE reference datum;*	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	c) when set to a pressure of 1 013.2 hPa, may be used to indicate flight levels. *Note 2.— The terms "height" and "altitude", used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.*	
	Flight path monitoring. The use of ATS surveillance systems for the purpose of providing aircraft with information and advice relative to significant deviations from nominal flight path, including deviations from the terms of their air traffic control clearances. *Note.— Some applications may require a specific technology, e.g. radar, to support the function of flight path monitoring.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft. *Note.— Specifications for flight plans are contained in Annex 2. A Model Flight Plan Form is contained in Appendix 2 to this document.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Flight visibility. The visibility forward from the cockpit of an aircraft in flight.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Flow control. Measures designed to adjust the flow of traffic into a given airspace, along a given route, or bound for a given aerodrome, so as to ensure the most effective utilization of the airspace.	Definition not transposed.
	Forecast. A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Free text message element. Part of a message that does not conform to any standard message in the PANS ATM (Doc4444).	Definition not transposed.

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	Glide path. A descent profile determined for vertical guidance during a final approach.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Ground effect. A condition of improved performance (lift) due to the interference of the surface with the airflow pattern of the rotor system when a helicopter or other VTOL aircraft is operating near the ground. *Note.— Rotor efficiency is increased by ground effect to a height of about one rotor diameter for most helicopters.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Ground visibility. The visibility at an aerodrome, as reported by an accredited observer or by automatic systems.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Heading. The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Height. The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Holding fix. A geographical location that serves as a reference for a holding procedure**.**	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Holding procedure. A predetermined manoeuvre which keeps an aircraft within a specified airspace while awaiting further clearance.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Hot spot. A location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.	Definition not transposed.

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	Human Factors principles. Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.	Definition not transposed.
	Human performance. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.	Definition not transposed.
	Identification. The situation which exists when the position indication of a particular aircraft is seen on a situation display and positively identified.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	IFR. The symbol used to designate the instrument flight rules.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	IFR flight. A flight conducted in accordance with the instrument flight rules.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	IMC. The symbol used to designate instrument meteorological conditions.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	INCERFA. The code word used to designate an uncertainty phase.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition proposed for identical transposition in Part-ATS.
	Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation. *Note.— The type of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies can be found at*	Definition not transposed.

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	http://www.icao.int/anb/aig.	
	Independent parallel approaches. Simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre lines are not prescribed.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Independent parallel departures. Simultaneous departures from parallel or near-parallel instrument runways.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Initial approach segment. That segment of an instrument approach procedure between the initial approach fix and the intermediate approach fix or, where applicable, the final approach fix or point.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Instrument approach operations. An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations: a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance. *Note.— Lateral and vertical navigation guidance refers to the guidance provided either by:* *a) a ground-based radio navigation aid; or* *b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Instrument approach procedure (IAP). A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition included in SERA but with differences: (a) *Non-precision approach (NPA*) procedure means an instrument

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	clearance criteria apply. Instrument approach procedures are classified as follows: *Non-precision approach (NPA) procedure.* An instrument approach procedure designed for 2D instrument approach operations Type A. *Note.— Non-precision approach procedures may be flown using a continuous descent final approach (CDFA) technique. CDFAs with advisory VNAV guidance calculated by on-board equipment (see PANS-OPS (Doc 8168), Volume I, Part I, Section 4, Chapter 1, paragraph 1.8.1) are considered 3D instrument approach operations. CDFAs with manual calculation of the required rate of descent are considered 2D instrument approach operations. For more information on CDFAs, refer to PANS-OPS (Doc 8168), Volume I, Part I, Section 4, Chapter 1, paragraphs 1.7 and 1.8. Approach procedure with vertical guidance (APV).* A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A. *Precision approach (PA) procedure.* An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS Cat I) designed for 3D instrument approach operations Type A or B. *Note.— Refer to Annex 6 for instrument approach operation types.*	approach procedure which utilises lateral guidance but does not utilise vertical guidance. (b) *Approach procedure with vertical guidance (APV)* means an instrument procedure which utilises lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations. (c) *Precision approach (PA) procedure* means an instrument approach procedure using precision lateral and vertical guidance with minima as determined by the category of operation.
	Instrument meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions. *Note 1.— The specified minima for visual meteorological conditions are contained in Chapter 3 of Annex 2.* *Note 2.— In a control zone, a VFR flight may proceed under instrument meteorological conditions if and as authorized by air traffic control.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	ITP aircraft. An aircraft approved by the State of the Operator to conduct in-trail procedure (ITP).	Definition not transposed.

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	ITP distance. The distance between the ITP aircraft and a reference aircraft as defined by: a) aircraft on the same track, the difference in distance to an aircraft calculated common point along a projection of each other's track; or b) aircraft on parallel tracks, the distance measured along the track of one of the aircraft using its calculated position and the point abeam the calculated position of the other aircraft. *Note.— Reference aircraft refers to one or two aircraft with ADS-B data that meet the ITP criteria described in* *5.4.2.7 and are indicated to ATC by the ITP aircraft as part of the ITP clearance request.*	Definition not transposed.
	Landing area. That part of a movement area intended for the landing or take-off of aircraft.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Level. A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Location indicator. A four-letter code group formulated in accordance with rules prescribed by ICAO and assigned to the location of an aeronautical fixed station.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Logon address. A specified code used for data link logon to an ATS unit.	Definition not transposed.
	Manoeuvring area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

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	Meteorological information. Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation.
	Meteorological office. An office designated to provide meteorological service for international air navigation.	Definition not transposed as this term is no longer used in the context of MET requirements in the ATM/ANS Common Requirements Regulation.
	Meteorological report. A statement of observed meteorological conditions related to a specified time and location.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation.
	Minimum fuel. The term used to describe a situation in which an aircraft's fuel supply has reached a state where the flight is committed to land at a specific aerodrome and no additional delay can be accepted.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Missed approach procedure. The procedure to be followed if the approach cannot be continued.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Mode (SSR). The conventional identifier related to specific functions of the interrogation signals transmitted by an SSR interrogator. There are four modes specified in Annex 10: A, C, S and intermode.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Multilateration (MLAT) system. A group of equipment configured to provide position derived from the secondary surveillance radar (SSR) transponder signals (replies or squitters) primarily using time difference of arrival (TDOA) techniques. Additional information, including identification, can be extracted from the received signals.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Near-parallel runways. Non-intersecting runways whose extended centre lines	It is transposed in Annex I to the ATM/ANS Common Requirements

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	have an angle of convergence/divergence of 15 degrees or less.	Regulation.
	Next data authority. The ground system so designated by the current data authority through which an onward transfer of communications and control can take place.	Definition not transposed.
	Normal operating zone (NOZ). Airspace of defined dimensions extending to either side of an ILS localizer course and/or MLS final approach track. Only the inner half of the normal operating zone is taken into account in independent parallel approaches.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	NOTAM. A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation.
	No transgression zone (NTZ). In the context of independent parallel approaches, a corridor of airspace of defined dimensions located centrally between the two extended runway centre lines, where a penetration by an aircraft requires a controller intervention to manoeuvre any threatened aircraft on the adjacent approach.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Obstacle clearance altitude (OCA) or obstacle clearance height (OCH). The lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria. *Note 1.— Obstacle clearance altitude is referenced to mean sea level and obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approach procedures to the aerodrome elevation or the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. An obstacle clearance height for a circling approach procedure is referenced to the aerodrome elevation.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation, as follows: **'Obstacle clearance altitude (OCA)' means the lowest altitude above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria.** **'Obstacle clearance height (OCH)' means the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria.**

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	Note 2.— For convenience when both expressions are used they may be written in the form "obstacle clearance altitude/height" and abbreviated "OCA/H".	
	Operational control. The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.	Definition not transposed.
	Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.	Definition not transposed.
	Performance-based communication (PBC). Communication based on performance specifications applied to the provision of air traffic services. *Note.— An RCP specification includes communication performance requirements that are allocated to system components in terms of the communication to be provided and associated transaction time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace concept.*	Definition not transposed.
	Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace. *Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.*	Definition not transposed.
	Performance-based surveillance (PBS). Surveillance based on performance specifications applied to the provision of air traffic services. *Note.— An RSP specification includes surveillance performance requirements that are allocated to system components in terms of the surveillance to be provided and associated data delivery time, continuity,*	Definition not transposed.

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	availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.	
	Pilot-in-command. The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Position indication. The visual indication, in non-symbolic and/or symbolic form, on a situation display, of the position of an aircraft, aerodrome vehicle or other object.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Position symbol. The visual indication in symbolic form, on a situation display, of the position of an aircraft, aerodrome vehicle or other object, obtained after automatic processing of positional data derived from any source.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Precision approach radar (PAR). Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown. *Note.— Precision approach radars are designated to enable pilots of aircraft to be given guidance by radiocommunication during the final stages of the approach to land.*	Definition not transposed.
	Pressure-altitude. An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.* * As defined in Annex 8.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Primary radar. A radar system which uses reflected radio signals.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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	Primary surveillance radar (PSR). A surveillance radar system which uses reflected radio signals.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Procedural control. Term used to indicate that information derived from an ATS surveillance system is not required for the provision of air traffic control service.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Procedural separation. The separation used when providing procedural control.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Procedure turn. A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track. *Note 1.— Procedure turns are designated "left" or "right" according to the direction of the initial turn.* *Note 2.— Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation
	Profile. The orthogonal projection of a flight path or portion thereof on the vertical surface containing the nominal track.	Definition not transposed.
	PSR blip. The visual indication, in non-symbolic form, on a situation display of the position of an aircraft obtained by primary radar.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Radar. A radio detection device which provides information on range, azimuth and/or elevation of objects.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Radar approach. An approach in which the final approach phase is executed under the direction of a controller using	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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	radar.	
	Radar clutter. The visual indication on a situation display of unwanted signals.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Radar contact. The situation which exists when the radar position of a particular aircraft is seen and identified on a situation display.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Radar separation. The separation used when aircraft position information is derived from radar sources.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	RCP type. A label (e.g. RCP 240) that represents the values assigned to RCP parameters for communication transaction time, continuity, availability and integrity.	Definition not transposed.
	Receiving unit/controller. Air traffic services unit/air traffic controller to which a message is sent. *Note.— See definition of "sending unit/controller".*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation, as follows: **'Receiving controller' means the air traffic controller to which a message is sent.** **'Receiving unit' means the ATS unit to which a message is sent.**
	Repetitive flight plan (RPL). A flight plan related to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by ATS units.	Definition not transposed.
	Reporting point. A specified geographical location in relation to which the position of an aircraft can be reported.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation, as follows: Definition identical to the one included already in the SERA Regulation.
	Required communication performance (RCP) specification. A set of requirements for air traffic service provision and associated ground	Definition not transposed.

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	equipment, aircraft capability, and operations needed to support performance-based communication.	
	Required navigation performance (RNP). A statement of the navigation performance necessary for operation within a defined airspace. *Note.— Navigation performance and requirements are defined for a particular RNP type and/or application.*	Definition not transposed.
	Required surveillance performance (RSP) specification. A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based surveillance.	Definition not transposed.
	Rescue coordination centre. A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation.
	Rescue unit. A unit composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue.	Definition not transposed.
	Runway. A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Runway-holding position. A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower. *Note.— In radiotelephony phraseologies, the expression "holding point" is used to designate the runway-holding position.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Runway incursion. Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Runway visual range (RVR). The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.	Definition identical to the one included already in the SERA Regulation.
	Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.	Definition not transposed.
	Secondary radar. A radar system wherein a radio signal transmitted from the radar station initiates the transmission of a radio signal from another station.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Secondary surveillance radar (SSR). A surveillance radar system which uses transmitters/receivers (interrogators) and transponders.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Segregated parallel operations. Simultaneous operations on parallel or near-parallel instrument runways in which one runway is used exclusively for approaches and the other runway is used exclusively for departures.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Sending unit/controller. Air traffic services unit/air traffic controller transmitting a message. *Note.— See definition of "receiving unit/controller".*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation, as follows: **'Sending controller means the air traffic controller transmitting a message'.** **'Sending unit means the ATS unit transmitting a message'.**
	Shoreline. A line following the general contour of the shore, except that in cases of inlets or bays less than 30 nautical miles in width, the line shall pass directly across the inlet or bay to intersect the general contour on the opposite side.	Definition not transposed.

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	SIGMET information. Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations.	Definition already included in Annex I to the ATM/ANS Common Requirements Regulation, as 'SIGMET message'. Definition identical to the one included already in the SERA Regulation.
	Significant point. A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes. *Note.— There are three categories of significant points: ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground-based navigation aids.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Situation display. An electronic display depicting the position and movement of aircraft and other information as required**.**	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Special VFR flight. A VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	SSR response. The visual indication, in non-symbolic form, on a situation display, of a response from an SSR transponder in reply to an interrogation.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Standard instrument arrival (STAR). A designated instrument flight rule (IFR) arrival route linking a significant point, normally on an ATS route, with a point from which a published instrument approach procedure can be commenced.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Standard instrument departure (SID). A designated instrument flight rule (IFR) departure route linking the aerodrome or a specified runway of the aerodrome with a specified significant point, normally on a designated ATS route, at which the en-route phase of a flight commences.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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	Standardized message element. Part of a message defined in the PANS-ATM (Doc 4444) in terms of display format, intended use and attributes. .	Definition not transposed.
	Stopway. A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Surveillance radar. Radar equipment used to determine the position of an aircraft in range and azimuth.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Taxiing. Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Taxiway. A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including: a) *Aircraft stand taxilane*. A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only. b) *Apron taxiway*. A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron. c) *Rapid exit taxiway*. A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on -other exit taxiways thereby minimizing runway occupancy times.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Terminal control area (TMA). A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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	Threshold. The beginning of that portion of the runway usable for landing.	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Time difference of arrival (TDOA). The difference in relative time that a transponder signal from the same aircraft (or ground vehicle) is received at different receivers.	Definition not transposed.
	Total estimated elapsed time. For IFR flights, the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from take-off to arrive over the destination aerodrome.	Definition identical to the one included already in the SERA Regulation.
	Touchdown. The point where the nominal glide path intercepts the runway. *Note.— "Touchdown" as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Track. The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Traffic avoidance advice. Advice provided by an air traffic services unit specifying manoeuvres to assist a pilot to avoid a collision.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Traffic information. Information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight and to help the pilot avoid a collision.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Transfer of control point. A defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Transferring unit/controller. Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight. *Note.— See definition of "accepting unit/controller".*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation, as follows: **'Transferring controller' means the air traffic controller in the process of transferring the responsibility for providing ATC service to an aircraft to the next ATC unit/air traffic controller along the route of flight.** **'Transferring unit' means ATC unit in the process of transferring the responsibility for providing ATC service to an aircraft to the next ATC unit/air traffic controller along the route of flight.**
	Transition altitude. The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Transition layer. The airspace between the transition altitude and the transition level.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	Transition level. The lowest flight level available for use above the transition altitude.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Uncertainty phase. A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Unmanned free balloon. A non-power-driven, unmanned, lighter-than-air aircraft in free flight.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

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	Note.— Unmanned free balloons are classified as heavy, medium or light in accordance with specifications contained in Annex 2, Appendix 4.	Definition identical to the one included already in the SERA Regulation.
	Vectoring. Provision of navigational guidance to aircraft in the form of specific headings, based on the use of an ATS surveillance system.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.
	VFR. The symbol used to designate the visual flight rules.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	VFR flight. A flight conducted in accordance with the visual flight rules.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Visibility. Visibility for aeronautical purposes is the greater of: a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background; b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background. *Note 1.— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).* *Note 2.— The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.*	It is already included in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Visual approach. An approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed in visual reference to terrain.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Visual meteorological conditions. Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima. *Note.— The specified minima are contained in Annex 2, Chapter 4.*	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	VMC. The symbol used to designate visual meteorological conditions.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition identical to the one included already in the SERA Regulation.
	Waypoint. A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either: *Fly-by waypoint.* A waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure, or *Flyover waypoint.* A waypoint at which a turn is initiated in order to join the next segment of a route or procedure.	It is transposed in Annex I to the ATM/ANS Common Requirements Regulation. Definition proposed for identical transposition in Part-ATS.
	ATS SAFETY MANAGEMENT	This Chapter 2 is not to be transposed as ATS requirements. ATS safety management requirements are already included in Annex IV (Subpart A) to the ATM/ANS Common Requirements Regulation
2.1.1	States shall ensure that the level of air traffic services (ATS) and communications, navigation and surveillance, as well as the ATS procedures applicable to the airspace or aerodrome concerned, are appropriate and adequate for maintaining an acceptable level of safety in the provision of ATS.	
2.1.2	The requirements in respect of services, systems and procedures applicable to airspaces and aerodromes should be established on the basis of a regional air navigation agreement in order to facilitate the harmonization of ATS in adjacent airspaces.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
2.1.3	To ensure that safety in the provision of ATS is maintained, the appropriate ATS authority shall implement safety management systems (SMS) for the air traffic services under its jurisdiction. Where appropriate, ATS SMS should be established on the basis of a regional air navigation agreement.	
2.2	The objectives of ATS safety management are to ensure that: a) the established level of safety applicable to the provision of ATS within an airspace or at an aerodrome is met; and b) safety-related enhancements are implemented whenever necessary.	
2.3.1	An ATS SMS should include, *inter alia*, the following with respect to the provision of air traffic services: a) monitoring of overall safety levels and detection of any adverse trend; b) safety reviews of ATS units; c) safety assessments in respect of the planned implementation of airspace reorganizations, the introduction of new equipment systems or facilities, and new or changed ATS procedures; and d) a mechanism for identifying the need for safety enhancing measures.	
2.3.2	All activities undertaken in an ATS SMS shall be fully documented. All documentation shall be retained for such period of time as is specified by the appropriate authority.	
2.4.1.1	Data for use in safety monitoring programmes should be collected from as wide a range of sources as possible, as the safety-related consequences of particular procedures or systems may not be realized until after an incident has occurred.	
2.4.1.2	The appropriate ATS authority should establish a formal incident reporting system for ATS personnel to facilitate the collection of information on actual or	

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	potential safety hazards or deficiencies related to the provision of ATS, including route structures, procedures, communications, navigation and surveillance systems and other safety significant systems and equipment as well as controller workloads.	
2.4.1.2	*Note.— Guidance related to both mandatory and voluntary State incident reporting systems is contained in the* Safety Management Manual (SMM) (*Doc 9859*).	
2.4.2.1	Safety-related reports concerning the operation of air traffic services, including air traffic incident reports, shall be systematically reviewed by the appropriate ATS authority in order to detect any adverse trend in the number and types of incidents which occur.	
2.4.2.2	Reports concerning the serviceability of ATS facilities and systems, such as failures and degradations of communications, surveillance and other safety significant systems and equipment, shall be systematically reviewed by the appropriate ATS authority in order to detect any trend in the operation of such systems which may have an adverse effect on safety.	
2.5.1	Safety reviews of ATS units shall be conducted on a regular and systematic basis by personnel qualified through training, experience and expertise and having a full understanding of relevant Standards and Recommended Practices (SARPs), Procedures for Air Navigation Services (PANS), safe operating practices and Human Factors principles.	
2.5.2	The scope of ATS unit safety reviews should include at least the following issues: *Regulatory issues* to ensure that: a) ATS operations manuals, ATS unit instructions and air traffic control (ATC) coordination procedures are complete, concise and up-to-date;	

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	b) the ATS route structure, where applicable, provides for: 1) adequate route spacing; and 2) crossing points for ATS routes located so as to reduce the need for controller intervention and for inter- and intra-unit coordination; c) the separation minima used in the airspace or at the aerodrome are appropriate and all the provisions applicable to those minima are being complied with; d) where applicable, provision is made for adequate observation of the manoeuvring area, and procedures and measures aimed at minimizing the potential for inadvertent runway incursions are in place. This observation may be performed visually or by means of an ATS surveillance system; e) appropriate procedures for low visibility aerodrome operations are in place; f) traffic volumes and associated controller workloads do not exceed defined, safe levels and that procedures are in place for regulating traffic volumes whenever necessary; g) procedures to be applied in the event of failures or degradations of ATS systems, including communications, navigation and surveillance systems, are practicable and will provide for an acceptable level of safety; and h) procedures for the reporting of incidents and other safety-related occurrences are implemented, that the reporting of incidents is encouraged and that such reports are reviewed to identify the need for any remedial action.	
2.5.2	*Operational and technical issues* to ensure that: a) the environmental working conditions meet established levels for temperature, humidity, ventilation, noise and ambient lighting, and do not adversely affect controller performance; b) automation systems generate and display flight plan, control and coordination data in a timely, accurate and easily recognizable manner and in accordance with Human Factors principles; c) equipment, including input/output devices for automation systems, are	

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	designed and positioned in the working position in accordance with ergonomic principles; d) communications, navigation, surveillance and other safety significant systems and equipment: 1) are tested for normal operations on a routine basis; 2) meet the required level of reliability and availability as defined by the appropriate authority; 3) provide for the timely and appropriate detection and warning of system failures and degradations; 4) include documentation on the consequences of system, subsystem and equipment failures and degradations; 5) include measures to control the probability of failures and degradations; and 6) include adequate backup facilities and/or procedures in the event of a system failure or degradation; and e) detailed records of systems and equipment serviceability are kept and periodically reviewed.	
2.5.2	*Note.— In the context above, the terms reliability and availability have the following meanings:* *1) Reliability. The probability that a device or system will function without failure over a specified time period or amount of usage; and* *2) Availability. The ratio of percentage of the time that a system is operating correctly to the total time in that period.*	
2.5.2	*Licensing and training issues* to ensure that: a) controllers are adequately trained and properly licensed with valid ratings; b) controller competency is maintained by adequate and appropriate refresher training, including the handling of aircraft emergencies and operations under	

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	conditions with failed and degraded facilities and systems; c) controllers, where the ATC unit/control sector is staffed by teams, are provided relevant and adequate training in order to ensure efficient teamwork; d) the implementation of new or amended procedures, and new or updated communications, surveillance and other safety significant systems and equipment is preceded by appropriate training and instruction; e) controller competency in the English language is satisfactory in relation to providing ATS to international air traffic; and f) standard phraseology is used.	
2.6.1.1	A safety assessment shall be carried out in respect of proposals for significant airspace reorganizations, for significant changes in the provision of ATS procedures applicable to an airspace or an aerodrome, and for the introduction of new equipment, systems or facilities, such as: a) a reduced separation minimum to be applied within an airspace or at an aerodrome; b) a new operating procedure, including departure and arrival procedures, to be applied within an airspace or at an aerodrome; c) a reorganization of the ATS route structure; d) a resectorization of an airspace; e) physical changes to the layout of runways and/or taxiways at an aerodrome; and f) implementation of new communications, surveillance or other safety-significant systems and equipment, including those providing new functionality and/or capabilities.	
2.6.1.1	*Note 1.— A reduced separation minimum may refer to the reduction of a horizontal separation minimum, including a minimum based on required navigation performance (RNP), a reduced vertical separation minimum of 300*	

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	m (1 000 ft) between FL 290 and FL 410 inclusive (RVSM), the reduction of a separation minimum based on the use of an ATS surveillance system or a wake turbulence separation minimum or reduction of minima between landing and/or departing aircraft.	
2.6.1.1	*Note 2.— When, due to the nature of the change, the acceptable level of safety cannot be expressed in quantitative terms, the safety assessments may rely on operational judgement.*	
2.6.1.2	Proposals shall be implemented only when the assessment has shown that an acceptable level of safety will be met.	
2.6.2	The safety assessment shall consider relevant all factors determined to be safety-significant, including: a) types of aircraft and their performance characteristics, including aircraft navigation capabilities and navigation performance; b) traffic density and distribution; c) airspace complexity, ATS route structure and classification of the airspace; d) aerodrome layout, including runway configurations, runway lengths and taxiway configurations; e) type of air-ground communications and time parameters for communication dialogues, including controller intervention capability; f) type and capabilities of surveillance system, and the availability of systems providing controller support and alert functions. Where ADS-B implementation envisages reliance upon a common source for surveillance and/or navigation, the safety assessment shall take account of adequate contingency measures to mitigate the risk of either degradation or loss of this common source (i.e. common mode failure); and g) any significant local or regional weather phenomena.	

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2.6.2	*Note 1.— See also Chapter 5, Section 5.11, concerning reductions in separation minima.*	
2.6.2	*Note 2.— Guidance material on methods of expressing and assessing a safety level and on safety monitoring programmes is contained in Annex 11, Attachment B, the* Air Traffic Services Planning Manual *(Doc 9426), the* Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive (*Doc 9574*), *the* Performance-based Navigation Manual *(Doc 9613) and the* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689).*	
2.7.1	Any actual or potential hazard related to the provision of ATS within an airspace or at an aerodrome, whether identified through an ATS safety management activity or by any other means, shall be assessed and classified by the appropriate ATS authority for its risk acceptability.	
2.7.2	Except when the risk can be classified as acceptable, the ATS authority concerned shall, as a matter of priority and as far as practicable, implement appropriate measures to eliminate the risk or reduce the risk to a level that is acceptable.	
2.7.3	If it becomes apparent that the level of safety applicable to an airspace or an aerodrome is not, or may not be achieved, the appropriate ATS authority shall, as a matter of priority and as far as practicable, implement appropriate remedial measures.	
2.7.4	Implementation of any remedial measure shall be followed by an evaluation of the effectiveness of the measure in eliminating or mitigating a risk.	
3	ATS SYSTEM CAPACITY AND AIR TRAFFIC FLOW MANAGEMENT	This Chapter is not to be transposed as ATS requirements, as ATF(C)M is not under the scope of Part-ATS. Regulation 255/2010, as amended by Regulation (EU) 2016/1006, includes

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
		this Chapter in the list of ICAO provisions relevant for ATFM.
3.1.1.1	The capacity of an ATS system depends on many factors, including the ATS route structure, the navigation accuracy of the aircraft using the airspace, weather-related factors, and controller workload. Every effort should be made to provide sufficient capacity to cater to both normal and peak traffic levels; however, in implementing any measures to increase capacity, the responsible ATS authority shall ensure, in accordance with the procedures specified in Chapter 2, that safety levels are not jeopardized.	
3.1.1.2	The number of aircraft provided with an ATC service shall not exceed that which can be safely handled by the ATC unit concerned under the prevailing circumstances. In order to define the maximum number of flights which can be safely accommodated, the appropriate ATS authority should assess and declare the ATC capacity for control areas, for control sectors within a control area and for aerodromes.	
3.1.1.3	ATC capacity should be expressed as the maximum number of aircraft which can be accepted over a given period of time within the airspace or at the aerodrome concerned.	
3.1.1.3	*Note.— The most appropriate measure of capacity is likely to be the sustainable hourly traffic flow. Such hourly capacities can, for example, be converted into daily, monthly or annual values*.	
3.1.2	In assessing capacity values, factors to be taken into account should include, *inter alia*: a) the level and type of ATS provided; b) the structural complexity of the control area, the control sector or the aerodrome concerned; c) controller workload, including control and coordination tasks to be	

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	performed; d) the types of communications, navigation and surveillance systems in use, their degree of technical reliability and availability as well as the availability of backup systems and/or procedures; e) availability of ATC systems providing controller support and alert functions; and f) any other factor or element deemed relevant to controller workload.	
3.1.2	*Note.— Summaries of techniques which may be used to estimate control sector/position capacities are contained in the* Air Traffic Services Planning Manual *(Doc 9426).*	
3.1.3.1	Where traffic demand varies significantly on a daily or periodic basis, facilities and procedures should be implemented to vary the number of operational sectors or working positions to meet the prevailing and anticipated demand. Applicable procedures should be contained in local instructions.	
3.1.3.2	In case of particular events which have a negative impact on the declared capacity of an airspace or aerodrome, the capacity of the airspace or aerodrome concerned shall be reduced accordingly for the required time period. Whenever possible, the capacity pertaining to such events should be predetermined.	
3.1.3.3	To ensure that safety is not compromised whenever the traffic demand in an airspace or at an aerodrome is forecast to exceed the available ATC capacity, measures shall be implemented to regulate traffic volumes accordingly.	
3.1.4.1	The appropriate ATS authority should: a) periodically review ATS capacities in relation to traffic demand; and b) provide for flexible use of airspace in order to improve the efficiency of operations and increase capacity.	

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3.1.4.2	In the event that traffic demand regularly exceeds ATC capacity, resulting in continuing and frequent traffic delays, or it becomes apparent that forecast traffic demand will exceed capacity values, the appropriate ATS authority should, as far as practicable: a) implement steps aimed at maximizing the use of the existing system capacity; and b) develop plans to increase capacity to meet the actual or forecast demand.	
3.1.5.1	The appropriate authorities should, through the establishment of agreements and procedures, make provision for the flexible use of all airspace in order to increase airspace capacity and to improve the efficiency and flexibility of aircraft operations. When applicable, such agreements and procedures should be established on the basis of a regional air navigation agreement.	
3.1.5.2	Agreements and procedures providing for a flexible use of airspace should specify, *inter alia*: a) the horizontal and vertical limits of the airspace concerned; b) the classification of any airspace made available for use by civil air traffic; c) units or authorities responsible for transfer of the airspace; d) conditions for transfer of the airspace to the ATC unit concerned; e) conditions for transfer of the airspace from the ATC unit concerned; f) periods of availability of the airspace; g) any limitations on the use of the airspace concerned; and h) any other relevant procedures or information.	
3.2.1.1	An air traffic flow management (ATFM) service shall be implemented for airspace where traffic demand at times exceeds the defined ATC capacity.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
3.2.1.2	ATFM should be implemented on the basis of a regional air navigation agreement or, when appropriate, as a multilateral agreement.	
3.2.1.3	The ATFM service within a region or other defined area, should be developed and implemented as a centralized ATFM organization, supported by flow management positions established at each area control centre (ACC) within the region or area of applicability.	
3.2.1.4	Certain flights may be exempt from ATFM measures, or be given priority over other flights.	
3.2.1.5	Detailed procedures governing the provision of the ATFM measures, and service within a region or area should be prescribed in a regional ATFM manual or handbook.	
3.2.2	ATFM should be carried out in three phases: a) *strategic planning*, if the action is carried out more than one day before the day on which it will take effect. Strategic planning is normally carried out well in advance, typically two to six months ahead; b) *pre-tactical planning*, if the action is to be taken on the day before the day on which it will take effect; c) *tactical operations*, if the action is taken on the day on which it will take effect.	
3.2.3.1	Strategic planning should be carried out in conjunction with ATC and the aircraft operators. It should consist of examining the demand for the forthcoming season, assessing where and when demand is likely to exceed the available ATC capacity and taking steps to resolve the imbalance by: a) arranging with the ATC authority to provide adequate capacity at the required place and time; b) re-routing certain traffic flows (traffic orientation);	

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	c) scheduling or rescheduling flights as appropriate; and d) identifying the need for tactical ATFM measures.	
3.2.3.2	Where a traffic orientation scheme (TOS) is to be introduced, the routes should, as far as practicable, minimize the time and distance penalties for the flights concerned, and allow some degree of flexibility in the choice of routes, particularly for long-range flights.	
3.2.3.3	When a TOS has been agreed, details should be published by all States concerned in a common format.	
3.2.4	Pre-tactical planning should entail fine-tuning of the strategic plan in the light of updated demand data. During this phase: a) certain traffic flows may be re-routed; b) off-load routes may be coordinated; c) tactical measures will be decided upon; and d) details for the ATFM plan for the following day should be published and made available to all concerned.	
3.2.5.1	Tactical ATFM operations should consist of: a) executing the agreed tactical measures in order to provide a reduced and even flow of traffic where demand would otherwise have exceeded capacity; b) monitoring the evolution of the air traffic situation to ensure that the ATFM measures applied are having the desired effect and to take or initiate remedial action when long delays are reported, including re-routing of traffic and flight level allocation, in order to utilize the available ATC capacity to the maximum extent.	
3.2.5.2	When the traffic demand exceeds, or is foreseen to exceed, the capacity of a particular sector or aerodrome, the responsible ATC unit shall advise the responsible ATFM unit, where such a unit is established, and other ATC units	

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	concerned. Flight crews of aircraft planned to fly in the affected area and operators should be advised, as soon as practicable, of the delays expected or the restrictions which will be applied.	
3.2.5.2	*Note.— Operators known or believed to be concerned will normally be advised by the regional air traffic flow management service, when established.*	
3.2.6	During all phases of ATFM the responsible units should liaise closely with ATC and the aircraft operators in order to ensure an effective and equitable service.	
3.2.6	*Note.— Attention is drawn to the guidance material contained in the* Air Traffic Services Planning Manual *(Doc 9426) regarding flow control as well as to procedures contained in* the Regional Supplementary Procedures *(Doc 7030) and regional ATFM Handbooks.*	
4	GENERAL PROVISIONS FOR AIR TRAFFIC SERVICES	
4.1	RESPONSIBILITY FOR THE PROVISION OF AIR TRAFFIC CONTROL SERVICE	
4.1.1	Area control service shall be provided: a) by an area control centre (ACC); or b) by the unit providing approach control service in a control zone or in a control area of limited extent which is designated primarily for the provision of approach control service, when no ACC is established.	Provision identical to Section 3.2 of Annex 11, transposed as ATS IR ATS.TR.205(a). Transposed also as SERA.8001.
4.1.2	Approach control service shall be provided: a) by an aerodrome control tower or an ACC, when it is necessary or desirable to combine under the responsibility of one unit the functions of the approach control service and those of the aerodrome control service or the area control service; or b) by an approach control unit, when it is necessary or desirable to establish a	Provision identical to Section 3.2 of Annex 11, transposed as ATS IR ATS.TR.205(b). Transposed also as SERA.8001.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	separate unit.	
4.1.2	*Note.— Approach control service may be provided by a unit collocated with an ACC, or by a control sector within an ACC.*	It is transposed as GM1 ATS.TR.205.
4.1.3	Aerodrome control service shall be provided by an aerodrome control tower.	Provision identical to Section 3.2 of Annex 11, transposed as ATS IR ATS.TR.205(c). Transposed also as SERA.8001.
4.2	RESPONSIBILITY FOR THE PROVISION OF FLIGHT INFORMATION SERVICE AND ALERTING SERVICE Flight information service and alerting service shall be provided as follows: a) *within a flight information region (FIR):* by a flight information centre, unless the responsibility for providing such services is assigned to an air traffic control unit having adequate facilities for the exercise of such responsibilities; b) *within controlled airspace and at controlled aerodromes:* by the relevant air traffic control units.	The transposition of Section 2.9 of Annex 11 as ATS IR ATS.TR.110(a)(1);(2) satisfies this provision.
4.3.1	The appropriate ATS authority shall designate the area of responsibility for each air traffic control (ATC) unit and, when applicable, for individual control sectors within an ATC unit. Where there is more than one ATC working position within a unit or sector, the duties and responsibilities of the individual working positions shall be defined.	It is transposed as AMC1 ATS.TR.205.
4.3.2.1	Except for flights which are provided aerodrome control service only, the control of arriving and departing controlled flights shall be divided between units providing aerodrome control service and units providing approach control service as follows:	The transfer of responsibility for control of aircraft is addressed in ATS.TR.230(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.3.2.1.1	*Arriving aircraft.* Control of an arriving aircraft shall be transferred from the unit providing approach control service to the unit providing aerodrome control service when the aircraft: a) is in the vicinity of the aerodrome, and 1) it is considered that approach and landing will be completed in visual reference to the ground, or 2) has reached uninterrupted visual meteorological conditions, or b) is at a prescribed point or level, or c) has landed, as specified in letters of agreement or ATS unit instructions.	The transfer of responsibility for control of arriving aircraft is addressed in ATS.TR.230(a), by the transposition of Section 3.6.1.3.1 of Annex 11.
4.3.2.1.2	Transfer of communications to the aerodrome controller should be effected at such a point, level or time that clearance to land or alternative instructions, as well as information on essential local traffic, can be issued in a timely manner.	Not transposed.
4.3.2.1.2	*Note.— Even though there is an approach control unit, control of certain flights may be transferred directly from an ACC to an aerodrome control tower and vice versa, by prior arrangement between the units concerned for the relevant part of approach control service to be provided by the ACC or the aerodrome control tower, as applicable.*	Provision identical to the Note to chapter 3.6.1.3.1 of Annex 11, transposed as GM2 ATS.TR.230(a)(3).
4.3.2.1.3	*Departing aircraft.* Control of a departing aircraft shall be transferred from the unit providing aerodrome control service to the unit providing approach control service: a) when visual meteorological conditions prevail in the vicinity of the aerodrome: 1) prior to the time the aircraft leaves the vicinity of the aerodrome, 2) prior to the aircraft entering instrument meteorological conditions, or	The transfer of responsibility for control of arriving aircraft is addressed in ATS.TR.230(a), by the transposition of Section 3.6.1.3.2 of Annex 11.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	3) when the aircraft is at a prescribed point or level, as specified in letters of agreement or ATS unit instructions; b) when instrument meteorological conditions prevail at the aerodrome: 1) immediately after the aircraft is airborne, or 2) when the aircraft is at a prescribed point or level, as specified in letters of agreement or local instructions. (EASA note: in Annex 11 'local instructions' is replaced by 'ATS unit instructions')	
4.3.2.1.3	*Note.— See Note following 4.3.2.1.2.*	Not transposed.
4.3.3.1	When area control service and approach control service are not provided by the same air traffic control unit, responsibility for controlled flights shall rest with the unit providing area control service except that a unit providing approach control service shall be responsible for the control of: a) arriving aircraft that have been released to it by the ACC; b) departing aircraft until such aircraft are released to the ACC.	Not transposed.
4.3.3.2	A unit providing approach control service shall assume control of arriving aircraft, provided such aircraft have been released to it, upon arrival of the aircraft at the point, level or time agreed for transfer of control, and shall maintain control during approach to the aerodrome.	Not transposed.
4.3.4	The responsibility for the control of an aircraft shall be transferred from a unit providing area control service in a control area to the unit providing area control service in an adjacent control area at the time of crossing the common control area boundary as estimated by the ACC having control of the aircraft or at such other point, level or time as has been agreed between the two units.	The transposition of Section 3.6.1.1 of Annex 11 as ATS IR ATS.TR.230(a)(1) satisfies this provision.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.3.5	The responsibility for the control of an aircraft shall be transferred from one control sector/position to another control sector/position within the same ATC unit at a point, level or time, as specified in local instructions.	The transposition of Section 3.6.1.4 of Annex 11 as ATS IR ATS.TR.230(a)(4) satisfies this provision.
4.4	FLIGHT PLAN	Section 4.4 is not transposed. As requirements concerning flight planning address both flight crew and ATS, transposition of this section is to be considered by SERA. Attention is drawn to the fact that flight planning is also addressed by Regulation (EC) No 1033/2006 'laying down the requirements on procedures for flight plans in the pre-flight phase for the single European sky' as amended by Regulation (EU) No 929/2010. Such Regulation already refers to Chapter 4.4 of PANS ATM for these purposes in its Article 3 and in the associated Annex.
4.4.1	*Note.— Procedures for the use of repetitive flight plans are contained in Chapter 16, Section 16.4.*	Not transposed.
4.4.1.1	A flight plan form based on the model in Appendix 2 should be provided and should be used by operators and air traffic services units for the purpose of completing flight plans.	Not transposed.
4.4.1.1	*Note.— A different form may be provided for use in completing repetitive flight plan listings.*	Not transposed.
4.4.1.2	The flight plan form should be printed and should include an English text in addition to the language(s) of the State concerned.	Not transposed.
4.4.1.2	*Note.— The Model Flight Plan Form in Appendix 2 is printed in English and one other of the languages of the Organization for illustration purposes.*	Not transposed.
4.4.1.3	Operators and air traffic services units should comply with: a) the instructions for completion of the flight plan form and the repetitive flight	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	plan listing form given in Appendix 2; and b) any constraints identified in relevant Aeronautical Information Publications (AIPs).	
4.4.1.3	*Note 1.— Failure to adhere to the provisions of Appendix 2 or any constraint identified in relevant AIPs may result in data being rejected, processed incorrectly or lost.*	Not transposed.
4.4.1.3	*Note 2.— The instructions for completing the flight plan form given in Appendix 2 may be conveniently printed on the inside cover of flight plan form pads, or posted in briefing rooms.*	Not transposed.
4.4.1.4	An operator shall, prior to departure: a) ensure that, where the flight is intended to operate on a route or in an area where a navigation specification is prescribed, the aircraft has an appropriate RNP approval, and that all conditions applying to that approval will be satisfied; b) ensure that, where operation in reduced vertical separation minimum (RVSM) airspace is planned, it has the required RVSM approval; c) ensure that, where the flight is intended to operate where an RCP specification is prescribed, the aircraft has an appropriate RCP approval, and that all conditions applying to that approval will be satisfied; and d) ensure that, where the flight is intended to operate where an RSP specification is prescribed, it has an appropriate RSP approval, and that all conditions applying to that approval will be satisfied.	Not transposed. Modifications introduced with ICAO AN-WP/9014.
4.4.2.1.1	Flight plans shall not be submitted more than 120 hours before the estimated off-block time of a flight.	Not transposed.
4.4.2.1.2	Except when other arrangements have been made for submission of repetitive flight plans, a flight plan submitted prior to departure should be submitted to the air traffic services reporting office at the departure aerodrome. If no such unit exists at the departure aerodrome, the flight plan should be submitted to the unit	Not transposed.

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	serving or designated to serve the departure aerodrome.	
4.4.2.1.3	In the event of a delay of 30 minutes in excess of the estimated off-block time for a controlled flight or a delay of one hour for an uncontrolled flight for which a flight plan has been submitted, the flight plan should be amended or a new flight plan submitted and the old flight plan cancelled, whichever is applicable.	Not transposed.
4.4.2.2.1	A flight plan to be submitted during flight should normally be transmitted to the ATS unit in charge of the FIR, control area, advisory area or advisory route in or on which the aircraft is flying, or in or through which the aircraft wishes to fly or to the aeronautical telecommunication station serving the air traffic services unit concerned. When this is not practicable, it should be transmitted to another ATS unit or aeronautical telecommunication station for retransmission as required to the appropriate air traffic services unit.	Not transposed.
4.4.2.2.2	Where relevant, such as in respect of ATC units serving high- or medium-density airspace, the appropriate ATS authority should prescribe conditions and/or limitations with respect to the submission of flight plans during flight to ATC units.	Not transposed.
4.4.2.2.2	*Note.— If the flight plan is submitted for the purpose of obtaining air traffic control service, the aircraft is required to wait for an air traffic control clearance prior to proceeding under the conditions requiring compliance with air traffic control procedures. If the flight plan is submitted for the purpose of obtaining air traffic advisory service, the aircraft is required to wait for acknowledgment of receipt by the unit providing the service.*	Not transposed.
4.4.3	The first ATS unit receiving a flight plan, or change thereto, shall: a) check it for compliance with the format and data conventions; b) check it for completeness and, to the extent possible, for accuracy; c) take action, if necessary, to make it acceptable to the air traffic services; and	Not transposed.

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	d) indicate acceptance of the flight plan or change thereto, to the originator.	
4.5.1	**AIR TRAFFIC CONTROL CLEARANCES**	
4.5.1.1	Clearances are issued solely for expediting and separating air traffic and are based on known traffic conditions which affect safety in aircraft operation. Such traffic conditions include not only aircraft in the air and on the manoeuvring area over which control is being exercised, but also any vehicular traffic or other obstructions not permanently installed on the manoeuvring area in use.	It is transposed as ATS IR ATS.TR.235(a)(1). Transposed also as SERA.8015(a)(1).
4.5.1.2	If an air traffic control clearance is not suitable to the pilot-in-command of an aircraft, the flight crew may request and, if practicable, obtain an amended clearance.	It is transposed as ATS IR ATS.TR.235(a)(4). Transposed also as SERA.8015(b)(2).
4.5.1.3	The issuance of air traffic control clearances by air traffic control units constitutes authority for an aircraft to proceed only in so far as known air traffic is concerned. ATC clearances do not constitute authority to violate any applicable regulations for promoting the safety of flight operations or for any other purpose; neither do clearances relieve a pilot-in-command of any responsibility whatsoever in connection with a possible violation of applicable rules and regulations.	It is transposed as GM1 ATS.TR.235.
4.5.1.4	ATC units shall issue such ATC clearances as are necessary to prevent collisions and to expedite and maintain an orderly flow of air traffic.	It is transposed as ATS IR ATS.TR.235(a)(2). Transposed also as SERA.8015(a)(2).
4.5.1.5	ATC clearances must be issued early enough to ensure that they are transmitted to the aircraft in sufficient time for it to comply with them.	It is transposed as ATS IR ATS.TR.235(a)(3). Transposed also as SERA.8015(a)(3).
4.5.2.1	When a flight plan specifies that the initial portion of a flight will be uncontrolled, and that the subsequent portion of the flight will be subject to ATC, the aircraft shall be advised to obtain its clearance from the ATC unit in whose area controlled flight will be commenced.	Not transposed. It is to be considered for transposition by SERA.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.5.2.2	When a flight plan specifies that the first portion of a flight will be subject to ATC, and that the subsequent portion will be uncontrolled, the aircraft shall normally be cleared to the point at which the controlled flight terminates.	Not transposed. It is to be considered for transposition by SERA.
4.5.3.1	When an aircraft files, at the departure aerodrome, flight plans for the various stages of flight through intermediate stops, the initial clearance limit will be the first destination aerodrome and new clearances shall be issued for each subsequent portion of flight.	Not transposed. It is to be considered for transposition by SERA.
4.5.3.2	The flight plan for the second stage, and each subsequent stage, of a flight through intermediate stops will become active for ATS and search and rescue (SAR) purposes only when the appropriate ATS unit has received notification that the aircraft has departed from the relevant departure aerodrome, except as provided for in 4.5.3.3.	Not transposed. It is to be considered for transposition by SERA.
4.5.3.3	By prior arrangement between ATC units and the operators, aircraft operating on an established schedule may, if the proposed route of flight is through more than one control area, be cleared through intermediate stops within other control areas but only after coordination between the ACCs concerned.	Not transposed. It is to be considered for transposition by SERA.
4.5.4.1	Clearances shall contain positive and concise data and shall, as far as practicable, be phrased in a standard manner.	Not transposed. ATS.TR.235(b) covers it more in detail this provision.
4.5.4.2	Clearances shall, except as provided for in Chapter 6, Section 6.3.2, concerning standard departure clearances, contain the items specified in Chapter 11, 11.4.2.6.2.1.	Provisions concerning standard clearances are established in ATS.TR.235(c). PANS ATM 11.4.2.6.2.2 is transposed as AMC1 ATS.TR.235 (b)(4).
4.5.5	ACCs shall, except where procedures providing for the use of standard departure clearances have been implemented, forward a clearance to approach control units or aerodrome control towers with the least possible delay after receipt of request made by these units, or prior to such request if practicable.	Not transposed as the principles of the provision covered in ATS.TR.235(a)(3) and (h).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.5.6.1.1	An ATC unit may request an adjacent ATC unit to clear aircraft to a specified point during a specified period.	Not transposed as the principles of the provision covered in ATS.TR.235(h).
4.5.6.1.2	After the initial clearance has been issued to an aircraft at the point of departure, it will be the responsibility of the appropriate ATC unit to issue an amended clearance whenever necessary and to issue traffic information, if required.	Not transposed as the principles of the provision covered in ATS.TR.235(a)(4)
4.5.6.1.3	When so requested by the flight crew, an aircraft shall be cleared for cruise climb whenever traffic conditions and coordination procedures permit. Such clearance shall be for cruise climb either above a specified level or between specified levels.	Not transposed as the principles of the provision covered in ATS.TR.235(h).
4.5.6.2.1	Aircraft intending supersonic flight shall, whenever practicable, be cleared for the transonic acceleration phase prior to departure.	It is transposed as AMC1 ATS.TR.235(d).
4.5.6.2.2	During the transonic and supersonic phases of a flight, amendments to the clearance should be kept to a minimum and must take due account of the operational limitations of the aircraft in these flight phases.	It is transposed as AMC1 ATS.TR.235(d).
4.5.7.1.1	A clearance limit shall be described by specifying the name of the appropriate significant point, or aerodrome, or controlled airspace boundary.	It is transposed as AMC1 ATS.TR.235(b)(2).
4.5.7.1.2	When prior coordination has been effected with units under whose control the aircraft will subsequently come, or if there is reasonable assurance that it can be effected a reasonable time prior to their assumption of control, the clearance limit shall be the destination aerodrome or, if not practicable, an appropriate intermediate point, and coordination shall be expedited so that a clearance to the destination aerodrome may be issued as soon as possible.	It is transposed as GM1 to AMC1 ATS.TR.235(b)(2).
4.5.7.1.3	If an aircraft has been cleared to an intermediate point in adjacent controlled airspace, the appropriate ATC unit will then be responsible for issuing, as soon as practicable, an amended clearance to the destination aerodrome.	It is transposed as GM1 to AMC1 ATS.TR.235(b)(2).

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4.5.7.1.4	When the destination aerodrome is outside controlled airspace, the ATC unit responsible for the last controlled airspace through which an aircraft will pass shall issue the appropriate clearance for flight to the limit of that controlled airspace.	It is transposed as GM1 to AMC1 ATS.TR.235(b)(2).
4.5.7.2.1	The route of flight shall be detailed in each clearance when deemed necessary. The phrase "cleared flight planned route" may be used to describe any route or portion thereof, provided the route or portion thereof is identical to that filed in the flight plan and sufficient routing details are given to definitely establish the aircraft on its route. The phrases "cleared (designation) departure" or "cleared (designation) arrival" may be used when standard departure or arrival routes have been established by the appropriate ATS authority and published in Aeronautical Information Publications (AIPs).	The first sentence is transposed as ATS IR ATS.TR.235(b)(3)(i), transposed also as SERA.8015(d)(3)(i). The remaining text is transposed as GM1 ATS.TR.235(b)(3)(i). Modifications introduced with ICAO AN-WP/9014.
4.5.7.2.1	Note.— See 6.3.2.3 pertaining to standard clearances for departing aircraft and 6.5.2.3 pertaining to standard clearances for arriving aircraft.	Not transposed. Modifications (New Note) introduced with ICAO AN-WP/9014.
4.5.7.2.2	The phrase "cleared flight planned route" shall not be used when granting a re-clearance.	It is transposed as ATS IR ATS.TR.235(b)(3)(ii). Transposed also as SERA.8015(d)(3)(ii). Modifications introduced with ICAO AN-WP/9014.
4.5.7.2.3	Subject to airspace constraints, ATC workload and traffic density, and provided coordination can be effected in a timely manner, an aircraft should whenever possible be offered the most direct routing.	Not transposed.
4.5.7.3	Except as provided for in Chapter 6, 6.3.2 and 6.5.1.5, use of standard departure and arrival clearances, instructions included in clearances relating to levels shall consist of the items specified in Chapter 11, 11.4.2.6.2.2.	PANS ATM 11.4.2.6.2.2 is transposed as AMC1 ATS.TR.235(b)(4).
4.5.7.4.1	When issuing a clearance covering a requested change in route or level, the exact nature of the change shall be included in the clearance.	It is transposed as ATS IR ATS.TR.235(e)(1). Transposed also as SERA.8015(ea)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.5.7.4.2	When traffic conditions will not permit clearance of a requested change, the word "UNABLE" shall be used. When warranted by circumstances, an alternative route or level should be offered.	It is transposed as ATS IR ATS.TR.235(e)(2). Transposed also as SERA.8015(ea)(2).
4.5.7.4.3	When an alternative route is offered and accepted by the flight crew under the procedures described in 4.5.7.4.2, the amended clearance issued shall describe the route to the point where it joins the previously cleared route, or, if the aircraft will not re-join the previous route, to the destination.	It is transposed as GM1 ATS.TR.235(e). With NPA 2015-14 it is proposed for transposition as GM1 SERA.8015(e)(1) 'Air traffic control clearances'.
4.5.7.5.1	The flight crew shall read back to the air traffic controller safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall always be read back: a) ATC route clearances; b) clearances and instructions to enter, land on, take off from, hold short of, cross, taxi and backtrack on any runway; and c) runway-in-use, altimeter settings, SSR codes, level instructions, heading and speed instructions and, whether issued by the controller or contained in automatic terminal information service (ATIS) broadcasts, transition levels.	Not transposed.
4.5.7.5.1	*Note.— If the level of an aircraft is reported in relation to standard pressure 1013.2 hPa, the words "FLIGHT LEVEL" precede the level figures. If the level of the aircraft is reported in relation to QNH/QFE, the figures are followed by the word "METRES" or "FEET", as appropriate.*	Not transposed. It is to be considered for transposition by SERA.
4.5.7.5.1.1	Other clearances or instructions, including conditional clearances, shall be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.	Not transposed.
4.5.7.5.2	The controller shall listen to the readback to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew and shall take immediate action to correct any discrepancies revealed by the readback.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.5.7.5.2.1	Unless specified by the appropriate ATS authority, voice readback of controller-pilot data link communications (CPDLC) messages shall not be required.	Not transposed.
4.5.7.5.2.1	*Note.— The procedures and provisions relating to the exchange and acknowledgement of CPDLC messages are contained in Annex 10, Volume II and the PANS-ATM, Chapter 14.*	Not transposed. It is to be considered for transposition by SERA.
4.6	HORIZONTAL SPEED CONTROL INSTRUCTIONS	
4.6.1	GENERAL	
4.6.1.1	In order to facilitate a safe and orderly flow of traffic, aircraft may, subject to conditions specified by the appropriate authority, be instructed to adjust speed in a specified manner. Flight crews should be given adequate notice of planned speed control.	It is transposed as AMC1 ATS.TR.210(a)(3).
4.6.1.1	*Note 1.— Application of speed control over a long period of time may affect aircraft fuel reserves.*	Not transposed.
4.6.1.1	*Note 2.— Provisions concerning longitudinal separation using the Mach number technique are contained in Chapter 5, Separation Methods and Minima.*	Not transposed.
4.6.1.2	Speed control instructions shall remain in effect unless explicitly cancelled or amended by the controller.	It is transposed as AMC1 ATS.TR.210(a)(3). Modifications (New provision) introduced with ICAO AN-WP/9014.
4.6.1.2	Note.— Cancellation of any speed control instruction does not relieve the flight crew of compliance with speed limitations associated with airspace classifications as specified in Annex 11 — Air Traffic Services, Appendix 4.	Not transposed. Modifications (New provision) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.6.1.3	Speed control shall not be applied to aircraft entering or established in a holding pattern.	It is transposed as AMC1 ATS.TR.210(a)(3). Modifications (re-numbering) introduced with ICAO AN-WP/9014.
4.6.1.4	Speed adjustments should be limited to those necessary to establish and/or maintain a desired separation minimum or spacing. Instructions involving frequent changes of speed, including alternate speed increases and decreases, should be avoided.	It is transposed as AMC1 ATS.TR.210(a)(3). Modifications (re-numbering) introduced with ICAO AN-WP/9014.
4.6.1.5	The flight crew shall inform the ATC unit concerned if at any time they are unable to comply with a speed instruction. In such cases, the controller shall apply an alternative method to achieve the desired spacing between the aircraft concerned.	It is transposed as AMC1 ATS.TR.210(a)(3). Modifications (re-numbering) introduced with ICAO AN-WP/9014.
4.6.1.6	At levels at or above 7 600 m (FL 250), speed adjustments should be expressed in multiples of 0.01 Mach; at levels below 7 600 m (FL 250), speed adjustments should be expressed in multiples of 20 km/h (10 kt) based on indicated airspeed (IAS).	It is transposed as AMC1 ATS.TR.210(a)(3). Modifications (re-numbering) introduced with ICAO AN-WP/9014.
4.6.1.6	*Note 1.— Mach 0.01 equals approximately 11 km/h (6 kt) IAS at higher flight levels.*	Not transposed. Modifications (re-numbering) introduced with ICAO AN-WP/9014.
4.6.1.6	*Note 2.— When an aircraft is heavily loaded and at a high level, its ability to change speed may, in cases, be very limited.*	It is transposed as GM2 to AMC1 ATS.TR.210(a)(3).
4.6.1.7	Aircraft shall be advised when a speed control restriction is no longer required.	It is transposed as AMC1 ATS.TR.210(a)(3). Modifications (re-numbering) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.6.2	METHODS OF APPLICATION	
4.6.2.1	In order to establish a desired spacing between two or more successive aircraft, the controller should first either reduce the speed of the last aircraft, or increase the speed of the lead aircraft, then adjust the speed(s) of the other aircraft in order.	It is transposed as GM1 to AMC1 ATS.TR.210(a)(3).
4.6.2.2	In order to maintain a desired spacing using speed control techniques, specific speeds need to be assigned to all the aircraft concerned.	It is transposed as GM1 to AMC1 ATS.TR.210(a)(3).
4.6.2.2	*Note 1.— The true airspeed (TAS) of an aircraft will decrease during descent when maintaining a constant IAS. When two descending aircraft maintain the same IAS, and the leading aircraft is at the lower level, the TAS of the leading aircraft will be lower than that of the following aircraft. The distance between the two aircraft will thus be reduced, unless a sufficient speed differential is applied. For the purpose of calculating a desired speed differential between two succeeding aircraft, 11 km/h (6 kt) IAS per 300 m (1 000 ft) height difference may be used as a general rule. At levels below 2 450 m (FL 80) the difference between IAS and TAS is negligible for speed control purposes.*	It is transposed as GM1 to AMC1 ATS.TR.210(a)(3).
4.6.2.2	*Note 2.— Time and distance required to achieve a desired spacing will increase with higher levels, higher speeds, and when the aircraft is in a clean configuration.*	It is transposed as GM1 to AMC1 ATS.TR.210(a)(3).
4.6.3	DESCENDING AND ARRIVING AIRCRAFT	
4.6.3.1	An aircraft should, when practicable, be authorized to absorb a period of notified terminal delay by cruising at a reduced speed for the latter portion of its flight.	It is transposed as GM1 to AMC2 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.6.3.2	An arriving aircraft may be instructed to maintain its 'maximum speed', 'minimum clean speed', 'minimum speed', or a specified speed.	It is transposed as GM1 to AMC2 ATS.TR.210(a)(3).
4.6.3.2	*Note.— "Minimum clean speed" signifies the minimum speed at which an aircraft can be flown in a clean configuration, i.e. without deployment of lift-augmentation devices, speed brakes or landing gear.*	It is transposed as GM1 to AMC2 ATS.TR.210(a)(3).
4.6.3.3	Speed reductions to less than 460 km/h (250 kt) IAS for turbojet aircraft during initial descent from cruising level should be applied only with the concurrence of the flight crew.	It is transposed as AMC2 ATS.TR.210(a)(3).
4.6.3.4	Instructions for an aircraft to simultaneously maintain a high rate of descent and reduce its speed should be avoided as such manoeuvres are normally not compatible. Any significant speed reduction during descent may require the aircraft to temporarily level off to reduce speed before continuing descent.	It is transposed as GM1 to AMC2 ATS.TR.210(a)(3).
4.6.3.5	Arriving aircraft should be permitted to operate in a clean configuration for as long as possible. Below 4 550 m (FL 150), speed reductions for turbojet aircraft to not less than 410 km/h (220 kt) IAS, which will normally be very close to the minimum speed of turbojet aircraft in a clean configuration, may be used.	It is transposed as GM1 to AMC2 ATS.TR.210(a)(3).
4.6.3.6	Only minor speed adjustments not exceeding plus/minus 40 km/h (20 kt) IAS should be used for aircraft on intermediate and final approach.	It is transposed as AMC2 ATS.TR.210(a)(3).
4.6.3.7	Speed control should not be applied to aircraft after passing a point 7 km (4 NM) from the threshold on final approach.	It is transposed as AMC2 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.6.3.7	*Note.— The flight crew has a requirement to fly a stabilized approach (airspeed and configuration) typically by 5 km (3 NM) from the threshold (Doc 8168, PANS-OPS, Volume I, Part III, Section 4, Chapter 3, 3.3 refers).*	Not transposed.
4.6.4	*SID and STAR* The flight crew shall comply with published SID and STAR restrictions unless these are explicitly cancelled or amended by the controller. Note 1.— Some SID and STAR speed restrictions ensure containment with RNAV departure or arrival procedure (e.g. maximum speed associated with a constant radius arc to a fix (RF) leg). Note 2.— See 6.3.2.4 pertaining to clearances on a SID and 6.5.2.4 pertaining to clearances on a STAR.	Not transposed. As the provision addresses the flight crew, it is not in the scope of ATS requirements. Notes not transposed. Modifications (New provision) introduced with ICAO AN-WP/9014.
4.7	VERTICAL SPEED CONTROL INSTRUCTIONS	
4.7.1	GENERAL	
4.7.1.1	In order to facilitate a safe and orderly flow of traffic, aircraft may be instructed to adjust rate of climb or rate of descent. Vertical speed control may be applied between two climbing aircraft or two descending aircraft in order to establish or maintain a specific vertical separation minimum.	It is transposed as AMC3 ATS.TR.210(a)(3).
4.7.1.2	Vertical speed adjustments should be limited to those necessary to establish and/or maintain a desired separation minimum. Instructions involving frequent changes of climb/descent rates should be avoided.	It is transposed as AMC3 ATS.TR.210(a)(3).
4.7.1.3	The flight crew shall inform the ATC unit concerned if unable, at any time, to comply with a specified rate of climb or descent. In such cases, the controller shall apply an alternative method to achieve an appropriate separation minimum	It is transposed as AMC3 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	between aircraft, without delay.	
4.7.1.4	Aircraft shall be advised when a rate of climb/descent restriction is no longer required.	It is transposed as AMC3 ATS.TR.210(a)(3).
4.7.2.1	An aircraft may be instructed to expedite climb or descent as appropriate to or through a specified level, or may be instructed to reduce its rate of climb or rate of descent.	It is transposed as GM1 to AMC3 ATS.TR.210(a)(3).
4.7.2.2	Climbing aircraft may be instructed to maintain a specified rate of climb, a rate of climb equal to or greater than a specified value or a rate of climb equal to or less than a specified value.	It is transposed as GM1 to AMC3 ATS.TR.210(a)(3).
4.7.2.3	Descending aircraft may be instructed to maintain a specified rate of descent, a rate of descent equal to or greater than a specified value or a rate of descent equal to or less than a specified value.	It is transposed as GM1 to AMC3 ATS.TR.210(a)(3).
4.7.2.4	In applying vertical speed control, the controller should ascertain to which level(s) climbing aircraft can sustain a specified rate of climb or, in the case of descending aircraft, the specified rate of descent which can be sustained, and shall ensure that alternative methods of maintaining separation can be applied in a timely manner, if required.	It is transposed as GM1 to AMC3 ATS.TR.210(a)(3).
4.7.2.4	*Note.— Controllers need to be aware of aircraft performance characteristics and limitations in relation to a simultaneous application of horizontal and vertical speed limitations.*	It is transposed as GM1 to AMC3 ATS.TR.210(a)(3).
4.8	CHANGE FROM IFR TO VFR	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.8.1	Change from instrument flight rules (IFR) flight to visual flight rules (VFR) flight is only acceptable when a message initiated by the pilot-in-command containing the specific expression "CANCELLING MY IFR FLIGHT", together with the changes, if any, to be made to the current flight plan, is received by an air traffic services unit. No invitation to change from IFR flight to VFR flight is to be made either directly or by inference.	Not transposed. It is transposed as SERA.5015(c)(3).
4.8.2	No reply, other than the acknowledgment "IFR FLIGHT CANCELLED AT ... (time)", should normally be made by an air traffic services unit.	Not transposed. It is proposed as GM1 SERA.5015(c)(3) with NPA 2015-14.
4.8.3	When an ATS unit is in possession of information that instrument meteorological conditions are likely to be encountered along the route of flight, a pilot changing from IFR flight to VFR flight should, if practicable, be so advised.	Not transposed as ATS requirement. It is to be considered for transposition by SERA.
4.8.3	*Note.— See Chapter 11, 11.4.3.2.1.*	Not transposed.
4.8.4	An ATC unit receiving notification of an aircraft's intention to change from IFR to VFR flight shall, as soon as practicable thereafter, so inform all other ATS units to whom the IFR flight plan was addressed, except those units through whose regions or areas the flight has already passed.	It is to be transposed as GM3 ATS.TR.230(b)(2).
4.9	*Note.— The term "wake turbulence" is used in this context to describe the effect of the rotating air masses generated behind the wing tips of large jet aircraft, in preference to the term "wake vortex" which describes the nature of the air* *masses. Detailed characteristics of wake vortices and their effect on aircraft are contained in the* Air Traffic Services Planning Manual *(Doc 9426), Part II, Section 5*.	Not transposed.
4.9.1.1	Wake turbulence separation minima shall be based on a grouping of aircraft types into three categories according to the maximum certificated take-off mass as follows:	It is transposed as AMC1 ATS.TR.220. The proposed text incorporates the category SUPER which may include aircraft indicated by the competent authority (explicitly the Airbus A380-

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	a) HEAVY (H) — all aircraft types of 136 000 kg or more; b) MEDIUM (M) — aircraft types less than 136 000 kg but more than 7 000 kg; and c) LIGHT (L) — aircraft types of 7000 kg or less.	800); it is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008). GM1 to AMC1 ATS.TR.220, resulting from such ICAO letter is proposed to specify the take-off mass of the A380-800 and the type of wake turbulence to be applied to such aircraft, as follows: **For the Airbus A380-800, with a maximum take-off mass in the order of 560 000 kg, it is recommended to apply an increase of the wake turbulence separation minima associated to the HEAVY category.**
4.9.1.2	Helicopters should be kept well clear of light aircraft when hovering or while air taxiing.	It is transposed as GM1 ATS.TR.220.
4.9.1.2	*Note 1.— Helicopters produce vortices when in flight and there is some evidence that, per kilogram of gross mass, their vortices are more intense than those of fixed-wing aircraft.*	It is transposed as GM1 ATS.TR.220.
4.9.1.2	*Note 2.— The provisions governing wake turbulence separation minima are set forth in Chapter 5, Section 5.8, and Chapter 8, Section 8.7.3.*	Not transposed.
4.9.2	For aircraft in the heavy wake turbulence category the word "Heavy" shall be included immediately after the aircraft call sign in the initial radiotelephony contact between such aircraft and ATS units.	Not transposed. Transposed as SERA.14090(c).
4.9.2	*Note.— Wake turbulence categories are specified in the instructions for completing Item 9 of the flight plan in Appendix 2.*	Not transposed.
4.10	ALTIMETER SETTING PROCEDURES	
4.10.1.1	For flights in the vicinity of aerodromes and within terminal control areas the vertical position of aircraft shall, except as provided for in 4.10.1.2, be	It is transposed as ATS IR ATS.TR.130(a). Transposed also as SERA.8015(eb)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	expressed in terms of altitudes at or below the transition altitude and in terms of flight levels at or above the transition level. While passing through the transition layer, vertical position shall be expressed in terms of flight levels when climbing and in terms of altitudes when descending.	
4.10.1.2	When an aircraft which has been given clearance to land is completing its approach using atmospheric pressure at aerodrome elevation (QFE), the vertical position of the aircraft shall be expressed in terms of height above aerodrome elevation during that portion of its flight for which QFE may be used, except that it shall be expressed in terms of height above runway threshold elevation: a) for instrument runways, if the threshold is 2 m (7ft) or more below the aerodrome elevation; and b) for precision approach runways.	It is transposed as ATS IR ATS.TR.130(b). Transposed also as SERA.8015(eb)(2).
4.10.1.3	For flights en route, the vertical position of aircraft shall be expressed in terms of: a) flight levels at or above the lowest usable flight level; and b) altitudes below the lowest usable flight level; except where, on the basis of regional air navigation agreements, a transition altitude has been established for a specified area, in which case the provisions of 4.10.1.1 shall apply.	It is transposed as ATS IR ATS.TR.135(a), merged with the transposition of Section 4.10.1.1. Transposed also as SERA.8015(eb)(1).
4.10.2.1	The appropriate ATS unit shall establish the transition level to be used in the vicinity of the aerodrome(s) concerned and, when relevant, the terminal control area (TMA) concerned, for the appropriate period of time on the basis of QNH (altimeter subscale setting to obtain elevation when on the ground) reports and forecast mean sea level pressure, if required.	It is transposed as ATS IR ATS.TR.135(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.10.2.2	The transition level shall be the lowest flight level available for use above the transition altitude established for the aerodrome(s) concerned. Where a common transition altitude has been established for two or more aerodromes which are so closely located as to require coordinated procedures, the appropriate ATS units shall establish a common transition level to be used at any given time in the vicinity of the aerodrome and, when relevant, in the TMA concerned.	The first sentence is a duplication of the definition of transition level proposed for introduction in Annex I, and therefore it is not to be transposed. The second sentence is transposed as GM1 ATS.TR.135.
4.10.2.2	*Note.— See 4.10.3.2 regarding the determination of the lowest usable flight level(s) for control areas.*	Not transposed.
4.10.3.1	Except when specifically authorized by the appropriate authority, cruising levels below the minimum flight altitudes established by the State shall not be assigned.	It is transposed as ATS IR ATS.TR.140(a).
4.10.3.2	ATC units shall, when circumstances warrant it, determine the lowest usable flight level or levels for the whole or parts of the control area for which they are responsible, use it when assigning flight levels and pass it to pilots on request.	It is transposed as ATS IR ATS.TR.140(b).
4.10.3.2	*Note 1.— Unless otherwise prescribed by the State concerned, the lowest usable flight level is that flight level which corresponds to, or is immediately above, the established minimum flight altitude*	It is transposed as GM1 ATS.TR.140(b).
4.10.3.2	*Note 2.— The portion of a control area for which a particular lowest usable flight level applies is determined in accordance with air traffic services requirements.*	Not transposed.
4.10.3.2	*Note 3.— The objectives of the air traffic control service as prescribed in Annex 11 do not include prevention of collision with terrain. The procedures prescribed in this document do not relieve pilots of their responsibility to ensure* *that any clearances issued by air traffic control units are safe in this respect. When an IFR flight is vectored or is given a direct routing which takes the*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	aircraft off an ATS route, the procedures in Chapter 8, 8.6.5.2 apply.	
4.10.4	PROVISION OF ALTIMETER SETTINGS INFORMATION	
4.10.4.1	Appropriate ATS units shall at all times have available for transmission to aircraft in flight, on request, the information required to determine the lowest flight level which will ensure adequate terrain clearance on routes or segments of routes for which this information is required.	It is transposed as ATS IR ATS.TR.145(a).
4.10.4.1	*Note.— If so prescribed on the basis of regional air navigation agreements, this information may consist of climatological data.*	Not transposed.
4.10.4.2	Flight information centres and ACCs shall have available for transmission to aircraft, on request, an appropriate number of QNH reports or forecast pressures for the FIRs and control areas for which they are responsible, and for those adjacent.	It is transposed as ATS IR ATS.TR.145(b).
4.10.4.3	The flight crew shall be provided with the transition level in due time prior to reaching it during descent. This may be accomplished by voice communications, ATIS broadcast or data link.	The first sentence is transposed as ATS IR ATS.TR.145(c). Transposed also as SERA.8015(eb)(2). The second sentence is transposed as GM2 ATS.TR.145(c). It is also proposed for transposition with NPA 2015-14 as GM1 SERA.8015(f)(2)
4.10.4.4	The transition level shall be included in approach clearances when so prescribed by the appropriate authority or requested by the pilot.	It is transposed as GM1 ATS.TR.145(c).
4.10.4.5	A QNH altimeter setting shall be included in the descent clearance when first cleared to an altitude below the transition level, in approach clearances or clearances to enter the traffic circuit, and in taxi clearances for departing aircraft, except when it is known that the aircraft has already received the information.	It is transposed as ATS IR ATS.TR.145(d). Transposed also as SERA.8015(eb)(3).

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4.10.4.6	A QFE altimeter setting shall be provided to aircraft on request or on a regular basis in accordance with local arrangements;	It is transposed as ATS IR ATS.TR.145(e). Transposed also as SERA.8015(eb)(4).
4.10.4.7	Altimeter settings provided to aircraft shall be rounded down to the nearest lower whole hectopascal.	It is transposed as ATS IR ATS.TR.145(f).
4.10.4.7	*Note 1.— Unless otherwise prescribed by the State concerned, the lowest usable flight level is that flight level which corresponds to, or is immediately above, the established minimum flight altitude.*	Provision identical to Note to Section 4.10.3.2, transposed as GM1 ATS.TR.140(b).
4.10.4.7	*Note 2.— The portion of a control area for which a particular lowest usable flight level applies is determined in accordance with air traffic services requirements.*	Not transposed.
4.10.4.7	*Note 3.— See Foreword, Note 2 to paragraph 2.1.*	
4.11	POSITION REPORTING	The entire Section 4.11 is not transposed. It is to be considered for transposition by SERA.
4.11.1.1	On routes defined by designated significant points, position reports shall be made by the aircraft when over, or as soon as possible after passing, each designated compulsory reporting point, except as provided in 4.11.1.3 and 4.11.3. Additional reports over other points may be requested by the appropriate ATS unit.	Not transposed.
4.11.1.2	On routes not defined by designated significant points, position reports shall be made by the aircraft as soon as possible after the first half hour of flight and at hourly intervals thereafter, except as provided in 4.11.1.3. Additional reports at	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	shorter intervals of time may be requested by the appropriate ATS unit.	
4.11.1.3	Under conditions specified by the appropriate ATS authority, flights may be exempted from the requirement to make position reports at each designated compulsory reporting point or interval. In applying this, account should be taken of the meteorological requirement for the making and reporting of routine aircraft observations.	Not transposed.
4.11.1.3	*Note.— This is intended to apply in cases where adequate flight progress data are available from other sources, e.g. radar or ADS-B (see Chapter 8, 8.6.4.4), or ADS-C (see Chapter 13) and in other circumstances where the omission of routine reports from selected flights is found to be acceptable.*	Not transposed.
4.11.1.4	The position reports required by 4.11.1.1 and 4.11.1.2 shall be made to the ATS unit serving the airspace in which the aircraft is operated. In addition, when so prescribed by the appropriate ATS authority in aeronautical information publications or requested by the appropriate ATS unit, the last position report before passing from one FIR or control area to an adjacent FIR or control area shall be made to the ATS unit serving the airspace about to be entered.	Not transposed.
4.11.1.5	If a position report is not received at the expected time, subsequent control shall not be based on the assumption that the estimated time is accurate. Immediate action shall be taken to obtain the report if it is likely to have any bearing on the control of other aircraft.	Not transposed.
4.11.2.1	The position reports required by 4.11.1.1 and 4.11.1.2 shall contain the following elements of information, except that elements d), e) and f) may be omitted from position reports transmitted by radiotelephony, when so prescribed on the basis of regional air navigation agreements: a) aircraft identification;	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) position; c) time; d) flight level or altitude, including passing level and cleared level if not maintaining the cleared level; e) next position and time over; and f) ensuing significant point.	
4.11.2.1.1	Element d), flight level or altitude, shall, however, be included in the initial call after a change of air-ground voice communication channel.	Not transposed.
4.11.2.2	When assigned a speed to maintain, the flight crew shall include this speed in their position reports. The assigned speed shall also be included in the initial call after a change of air-ground voice communication channel, whether or not a full position report is required.	Not transposed.
4.11.2.2	*Note.— Omission of element d) may be possible when flight level or altitude, as appropriate, derived from pressure-altitude information can be made continuously available to controllers in labels associated with the position indication of aircraft and when adequate procedures have been developed to guarantee the safe and efficient use of this altitude information.*	Not transposed.
4.11.3	When so prescribed by the appropriate ATS authority, the initial call to an ATC unit after a change of air-ground voice communication channel shall contain the following elements: a) designation of the station being called; b) call sign and, for aircraft in the heavy wake turbulence category, the word "Heavy"; c) level, including passing and cleared levels if not maintaining the cleared level; d) speed, if assigned by ATC; and	Not transposed. Transposed as SERA.14065(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	e) additional elements, as required by the appropriate ATS authority.	
4.11.4	The position reports shall be made automatically to the ATS unit serving the airspace in which the aircraft is operating. The requirements for the transmission and contents of automatic dependent surveillance — contract (ADS-C) reports shall be established by the controlling ATC unit on the basis of current operational conditions and communicated to the aircraft and acknowledged through an ADS-C agreement.	Not transposed.
4.11.5.1	ADS-C reports shall be composed of data blocks selected from the following: a) **Aircraft identification** b) **Basic ADS-C** latitude longitude altitude time figure of merit Note.— The Basic ADS-C block is mandatory and is included in all ADS-C reports. c) **Ground vector** track ground speed rate of climb or descent d) **Air vector** heading Mach or IAS	Not transposed. Modifications (New provisions and amendments) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	rate of climb or descent e) **Projected profile** next waypoint estimated altitude at next waypoint estimated time at next waypoint (next + 1) waypoint estimated altitude at (next + 1) waypoint estimated time at (next + 1) waypoint f) **Meteorological information** wind speed wind direction wind quality flag (if available) temperature turbulence (if available) humidity (if available) Note.— The specifications for the elements in the meteorological information data block, including their ranges and resolutions, are shown in Appendix 4 to Annex 3. g) **Short-term intent** latitude at projected intent point longitude at projected intent point altitude at projected intent point time of projection	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.11.5.1	If an altitude, track or speed change is predicted to occur between the aircraft's current position and the projected intent point, additional information would be provided in an intermediate intent block as follows: distance from current point to change point track from current point to change point altitude at change point predicted time to change point	Not transposed. Modifications (deletion) introduced with ICAO AN-WP/9014.
4.11.5.2	The basic ADS-C data block shall be required from all ADS-C-equipped aircraft. Remaining ADS-C data blocks shall be included as necessary. In addition to any requirements concerning its transmission for ATS purposes, data block f) (Meteorological information) shall be transmitted in accordance with Annex 3, 5.3.1. ADS-C emergency and/or urgency reports shall include the emergency and/or urgency status in addition to the relevant ADS-C report information.	Not transposed.
4.11.6	*Note.— Data formats of ADS-B messages can be found in Annex 10* — Aeronautical Telecommunications, *Volume III* — Communication Systems, *Part I* — Digital Data Communication Systems, *and Volume IV* — Surveillance Radar and Collision Avoidance Systems.	Not transposed.
4.12	REPORTING OF OPERATIONAL AND METEOROLOGICAL INFORMATION	The entire Section 4.11 is not transposed. It is to be considered for transposition by SERA.
4.12.1.1	When operational and/or routine meteorological information is to be reported, using data link, by an aircraft en route at times where position reports are required in accordance with 4.11.1.1 and 4.11.1.2, the position report shall be given in accordance with 4.11.5.2 (requirements concerning transmission of meteorological information from ADS-C equipped aircraft), or in the form of a routine air-report. Special aircraft observations shall be reported as special air-reports. All air-reports shall be reported as soon as is practicable.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.12.2.1	Routine air-reports transmitted by data link, when ADS-C is not being applied, shall give information relating to such of the following elements as are necessary for compliance with 4.12.2.2: *Section 1.— Position information:* 1) aircraft identification 2) position 3) time 4) flight level or altitude 5) next position and time over 6) ensuing significant point	Not transposed.
4.12.2.1	*Section 2.— Operational information:* 7) estimated time of arrival 8) endurance	Not transposed.
4.12.2.1	*Section 3.— Meteorological information:* 9) wind direction 10) wind speed 11) wind quality flag 12) air temperature 13) turbulence (if available) 14) humidity (if available).	Not transposed.
4.12.2.2	Section 1 of the air-report is obligatory, except that elements 5) and 6) thereof may be omitted when so prescribed on the basis of regional air navigation agreements. Section 2 of the air-report, or a portion thereof, shall only be	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	transmitted when so requested by the operator or a designated representative, or when deemed necessary by the pilot-in-command. Section 3 of the air-report shall be transmitted in accordance with Annex 3, Chapter 5.	
4.12.2.2	*Note.— While element 4), flight level or altitude, may, in accordance with 4.11.2.1, be omitted from the contents of a position report transmitted by radiotelephony when so prescribed on the basis of regional air navigation agreements, that element may not be omitted from Section 1 of an air-report.*	Not transposed.
4.12.3.1	Special air-reports shall be made by all aircraft whenever the following conditions are encountered or observed: a) moderate or severe turbulence; or b) moderate or severe icing; or c) severe mountain wave; or d) thunderstorms, without hail that are obscured, embedded, widespread or in squall lines; or e) thunderstorms, with hail that are obscured, embedded, widespread or in squall lines; or f) heavy duststorm or heavy sandstorm; or g) volcanic ash cloud; or h) pre-eruption volcanic activity or a volcanic eruption; or i) runway braking action encountered is not as good as reported..	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.
4.12.3.1	*Note.— Pre-eruption volcanic activity in this context means unusual and/or increasing volcanic activity which could presage a volcanic eruption.*	Not transposed.
4.12.3.1	In addition, in the case of transonic and supersonic flight: i) moderate turbulence; or	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	j) hail; or k) cumulonimbus clouds.	
4.12.3.2	When air-ground data link is used, special air-reports shall contain the following elements: message type designator aircraft identification **Data block 1:** latitude longitude pressure-altitude time **Data block 2:** wind direction wind speed wind quality flag air temperature turbulence (if available) humidity (if available) **Data block 3:** condition prompting the issuance of the special air-report; to be selected from the list a) to k) presented under 4.12.3.1.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.12.3.3	When voice communications are used, special air-reports shall contain the following elements: Message type designator *Section 1.— Position information* 1) aircraft identification 2) position 3) time 4) flight level or altitude	Not transposed.
4.12.3.3 c'ted	*Section 3.— Meteorological information* 5) condition prompting the issuance of the special air-report; to be selected from the list a) to k) presented under 4.12.3.1.	Not transposed.
4.12.4.1	Forms based on the model AIREP SPECIAL form at Appendix 1 shall be provided for the use of flight crews in compiling the reports. The detailed instructions for reporting, as given at Appendix 1, shall be complied with.	Not transposed.
4.12.4.2	The detailed instructions, including the formats of messages and the phraseologies given at Appendix 1, shall be used by flight crews when transmitting air-reports and by air traffic services units when retransmitting such reports.	Not transposed.
4.12.4.2	*Note.— Increasing use of air-reports in automated systems makes it essential that the elements of such reports be transmitted in the order and form prescribed.*	Not transposed.
4.12.5	Special air-reports containing observations of volcanic activity shall be recorded on the special air-report of volcanic activity form. Forms based on the model form for special air-reports of volcanic activity at Appendix 1 shall be provided	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	for flight crews operating on routes which could be affected by volcanic ash clouds.	
4.12.5	*Note.— The recording and reporting instructions may conveniently be printed on the back of the special air-report of volcanic activity form.*	Not transposed.
4.12.6.1	When receiving ADS-C reports which contain a meteorological information block, air traffic services units shall relay the basic ADS-C and meteorological information blocks and aircraft registration without delay to the world area forecast centres (WAFCs).	Not transposed.
4.12.6.1	*Note.— Specifications concerning the format to be used in the relay of meteorological information to the WAFCs are contained in the* Manual on Aeronautical Meteorological Practice *(Doc 8896).*	Not transposed.
4.12.6.2	When receiving special air-reports by data link communications, air traffic services units shall forward them without delay to their associated meteorological watch office, the WAFCs and the centres designated by regional air navigation agreement for the operation of aeronautical fixed service Internet-based services..	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.
4.12.6.3	When receiving special air-reports by voice communications, air traffic services units shall forward them without delay to their associated meteorological watch offices.	Not transposed.
4.12.7	Forwarding of braking action information When receiving special air-reports by voice communications concerning braking action encountered that is not as good as that reported, air traffic service units shall forward them without delay to the appropriate aerodrome operator.	Not transposed. Modifications (New provision) introduced with ICAO AN-WP/9014.
4.13	PRESENTATION AND UPDATING OF FLIGHT PLAN AND CONTROL DATA	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.13.1	The appropriate authority shall establish provisions and procedures for the presentation to controllers, and subsequent updating, of flight plan and control data for all flights being provided with a service by an ATS unit. Provision shall also be made for the presentation of any other information required or desirable for the provision of ATS.	Not transposed, as the principle is covered in ATS.TR.210(b).
4.13.2.1	Sufficient information and data shall be presented in such a manner as to enable the controller to have a complete representation of the current air traffic situation within the controller's area of responsibility and, when relevant, movements on the manoeuvring area of aerodromes. The presentation shall be updated in accordance with the progress of aircraft, in order to facilitate the timely detection and resolution of conflicts as well as to facilitate and provide a record of coordination with adjacent ATS units and control sectors.	It is transposed as AMC1 ATS.OR.145(a).
4.13.2.2	An appropriate representation of the airspace configuration, including significant points and information related to such points, shall be provided. Data to be presented shall include relevant information from flight plans and position reports as well as clearance and coordination data. The information display may be generated and updated automatically, or the data may be entered and updated by authorized personnel.	It is transposed as AMC1 ATS.OR.145(a).
4.13.2.3	Requirements regarding other information to be displayed, or to be available for display, shall be specified by the appropriate authority.	It is considered to be transposed as ATS IR by ATS.OR.145(a).
4.13.3.1	The required flight plan and control data may be presented through the use of paper flight progress strips or electronic flight progress strips, by other electronic presentation forms or by a combination of presentation methods.	It is transposed as GM3 ATS.OR.145(a).
4.13.3.2	The method(s) of presenting information and data shall be in accordance with Human Factors principles. All data, including data related to individual aircraft, shall be presented in a manner minimizing the potential for misinterpretation or misunderstanding.	The first sentence is transposed as GM1 ATS.OR.145(a). The second sentence is transposed as AMC1 as ATS.OR.145(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
4.13.3.3	Means and methods for manually entering data in ATC automation systems shall be in accordance with Human Factors principles.	It is transposed as GM1 ATS.OR.145(a).
4.13.3.4	When flight progress strips (FPS) are used, there should be at least one individual FPS for each flight. The number of FPS for individual flights shall be sufficient to meet the requirements of the ATS unit concerned. Procedures for annotating data and provisions specifying the types of data to be entered on FPS, including the use of symbols, shall be specified by the appropriate ATS authority.	The first and second sentences are not transposed. The third sentence is transposed as GM3 ATS.OR.145(a).
4.13.3.4	*Note.— Guidance material on the use of paper FPS is contained in the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
4.13.3.5	Data generated automatically shall be presented to the controller in a timely manner. The presentation of information and data for individual flights shall continue until such time as the data is no longer required for the purpose of providing control, including conflict detection and the coordination of flights, or until terminated by the controller.	It is transposed as AMC1 ATS.OR.145(a).
4.13.4	Paper FPS shall be retained for a period of at least 30 days. Electronic flight progress and coordination data shall be recorded and retained for at least the same period of time.	It is transposed as ATS IR ATS.OR.460(a)(6).
4.14	ATC units shall immediately report in accordance with local instructions any failure or irregularity of communication, navigation and surveillance systems or any other safety-significant systems or equipment which could adversely affect the safety or efficiency of flight operations and/or the provision of air traffic control service.	It is transposed as ATS IR ATS.OR.140.
4.15.1	DATA LINK COMMUNICATIONS INITIATION PROCEDURES	
	Note 1.— Provisions concerning the data link initiation capability (DLIC) are contained in Annex 10, Volume II, Chapter 8.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
		Modifications (New note) introduced with ICAO AN-WP/9014.
	Note 2.— Guidance material relating to the implementation of DLIC can be found in the Global Operational Data Link (GOLD) Manual (Doc 10037).	Not transposed. Modifications (New note) introduced with ICAO AN-WP/9014.
4.15.1.1	Before entering an airspace where data link applications are used by the ATS unit, data link communications shall be initiated between the aircraft and the ATS unit in order to register the aircraft and, when necessary, allow the start of a data link application. This shall be initiated by the aircraft, either automatically or by the pilot, or by the ATS unit on address forwarding.	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
4.15.1.2	The logon address associated with an ATS unit shall be published in Aeronautical Information Publications in accordance with Annex 15.	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
4.15.1.2	*Note.— A given FIR may have multiple logon addresses; and more than one FIR may share the same logon address.*	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
4.15.2	On receipt of a valid data link initiation request from an aircraft approaching or within a data link service area, the ATS unit shall accept the request and, if able to correlate it with a flight plan, shall establish a connection with the aircraft.	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
4.15.3	Where the ground system initially contacted by the aircraft is able to pass the necessary aircraft address information to another ATS unit, it shall pass the aircraft updated ground addressing information for data link applications previously coordinated in sufficient time to permit the establishment of data link communications.	Not transposed.
4.15.4.1	In the case of a data link initiation failure, the data link system shall provide an indication of the failure to the appropriate ATS unit(s) and the flight crew. The data link system shall also provide an indication of the failure to the flight crew when a data link initiation failure results from a logon initiated by the flight crew.	Not transposed. Modifications (modified and additional text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Note.— When the aircraft‘s logon request results from address forwarding by an upstream ATS unit, then both ATS units will receive the indication.	Not transposed. Modifications (New note) introduced with ICAO AN-WP/9014.
4.15.4.2	The ATS unit shall establish procedures to resolve, as soon as practicable, data link initiation failures. Procedures should include, as a minimum, verifying that the aircraft is initiating a data link request with the appropriate ATS unit (i.e. the aircraft is approaching or within the ATS unit’s control area), and if so: a) when a flight plan is available, verify that the aircraft identification, aircraft registration, or aircraft address and other details contained in the data link initiation request correspond with details in the flight plan, and where differences are detected verify the correct information and make the necessary changes; or b) when a flight plan is not available, create a flight plan with sufficient information in the flight data processing system, to achieve a successful data link initiation; then c) arrange for the re-initiation of the data link.	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
4.15.4.3	The aircraft operator shall establish procedures to resolve, as soon as practicable, data link initiation failures. Procedures should include, as a minimum, that the pilot: a) verify the correctness and consistency of the flight plan information available in the FMS or equipment from which the data link is initiated, and where differences are detected make the necessary changes; b) verify the correct address of the ATS unit; then c) re-initiate data link.	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
5	SEPARATION METHODS AND MINIMA	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.1	*Note 1.— With the exceptions stated below, Chapter 5 contains procedures and procedural separation minima for use in the separation of aircraft in the en-route phase as well as aircraft in the arrival and departure phases of flight.*	Not transposed.
5.1	*Note 2.— Procedures and separation minima applicable to approaches to parallel runways are contained in Chapter 6. Procedures and separation minima applicable in the provision of aerodrome control service are contained* *in Chapter 7 and procedures and separation minima applicable to the use of ATS surveillance systems are contained in Chapter 8.*	Not transposed.
5.1	*Note 3.— Attention is drawn to the use of strategic lateral offset procedures (SLOP) described in Chapter 16, 16.5.*	Not transposed.
5.1	*Note 4.— Procedures applicable to data link initiation capability (DLIC) are contained in Chapter 4. Procedures applicable to automatic dependent surveillance - contract (ADS-C) are contained in Chapter 13. Procedures applicable to controller-pilot data link communications (CPDLC) are contained in Chapter 14.*	Not transposed. Modifications (New note) introduced with ICAO AN-WP/9014.
5.2	PROVISION FOR THE SEPARATION OF CONTROLLED TRAFFIC	
5.2.1.1	Vertical or horizontal separation shall be provided: a) between all flights in Class A and B airspaces; b) between IFR flights in Class C, D and E airspaces; c) between IFR flights and VFR flights in Class C airspace; d) between IFR flights and special VFR flights; and e) between special VFR flights, when so prescribed by the appropriate ATS authority; except, for the cases under b) above in airspace Classes D and E, during the	Provision identical to Section 3.3.4 of Annex 11, transposed with modifications as ATS IR ATS.TR.210(b). Transposed also as SERA.8005(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	hours of daylight when flights have been cleared to climb or descend subject to maintaining own separation and remaining in visual meteorological conditions. Conditions applicable to the use of this procedure are contained in Section 5.9.	
5.2.1.2	No clearance shall be given to execute any manoeuvre that would reduce the spacing between two aircraft to less than the separation minimum applicable in the circumstances.	Not transposed.
5.2.1.3	Larger separations than the specified minima should be applied whenever exceptional circumstances such as unlawful interference or navigational difficulties call for extra precautions. This should be done with due regard to all relevant factors so as to avoid impeding the flow of air traffic by the application of excessive separations.	It is transposed as GM1 ATS.TR.210(c).
5.2.1.3	*Note.— Unlawful interference with an aircraft constitutes a case of exceptional circumstances which might require the application of separations larger than the specified minima, between the aircraft being subjected to unlawful interference and other aircraft.*	Not transposed.
5.2.1.4	Where the type of separation or minimum used to separate two aircraft cannot be maintained, another type of separation or another minimum shall be established prior to the time when the current separation minimum would be infringed.	It is transposed as ATS IR ATS.TR.210(d).
5.2.2	Whenever, as a result of failure or degradation of navigation, communications, altimetry, flight control or other systems, aircraft performance is degraded below the level required for the airspace in which it is operating, the flight crew shall advise the ATC unit concerned without delay. Where the failure or degradation affects the separation minimum currently being employed, the controller shall take action to establish another appropriate type of separation or separation minimum.	Not transposed. It is transposed as SERA.11013(a).

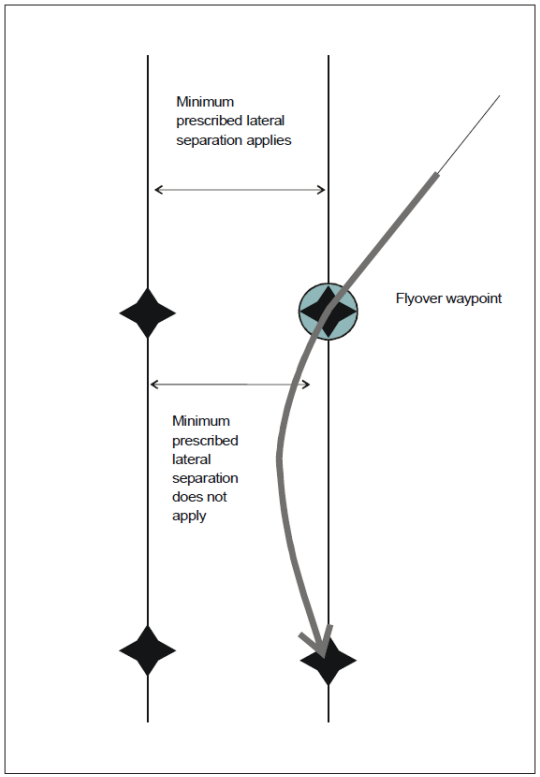
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.3	VERTICAL SEPARATION	
5.3.1	Vertical separation is obtained by requiring aircraft using prescribed altimeter setting procedures to operate at different levels expressed in terms of flight levels or altitudes in accordance with the provisions in Chapter 4, Section 4.10.	It is transposed as GM1 ATS.TR.210(c)(1).
5.3.2	The vertical separation minimum (VSM) shall be: a) a nominal 300 m (1 000 ft) below FL 290 and a nominal 600 m (2 000 ft) at or above this level, except as provided for in b) below; and b) within designated airspace, subject to a regional air navigation agreement: a nominal 300 m (1 000 ft) below FL 410 or a higher level where so prescribed for use under specified conditions, and a nominal 600 m (2 000 ft) at or above this level.	Not transposed.
5.3.2	*Note.— Guidance material relating to vertical separation is contained in the* Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive *(Doc 9574).*	Not transposed.
5.3.3	ASSIGNMENT OF CRUISING LEVELS FOR CONTROLLED FLIGHTS	
5.3.3.1	Except when traffic conditions and coordination procedures permit authorization of cruise climb, an ATC unit shall normally authorize only one level for an aircraft beyond its control area, i.e. that level at which the aircraft will enter the next control area whether contiguous or not. It is the responsibility of the accepting ATC unit to issue clearance for further climb as appropriate. When relevant, aircraft will be advised to request en route any cruising level changes desired.	It is transposed as GM1 ATS.TR.235(b)(4).
5.3.3.2	Aircraft authorized to employ cruise climb techniques shall be cleared to operate between two levels or above a level.	Not transposed.

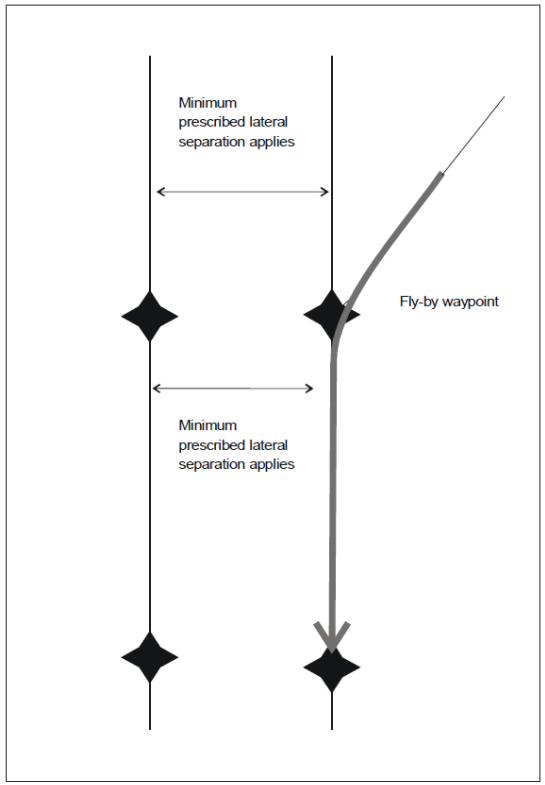
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.3.3.3	If it is necessary to change the cruising level of an aircraft operating along an established ATS route extending partly within and partly outside controlled airspace and where the respective series of cruising levels are not identical, the change shall, whenever possible, be effected within controlled airspace.	It is transposed as GM2 ATS.TR.235(e).
5.3.3.4	When an aircraft has been cleared into a control area at a cruising level which is below the established minimum cruising level for a subsequent portion of the route, the ATC unit responsible for the area should issue a revised clearance to the aircraft even though the pilot has not requested the necessary cruising level change.	Not transposed.
5.3.3.5	An aircraft may be cleared to change cruising level at a specified time, place or rate.	Not transposed.
5.3.3.5	*Note.— See 5.3.4.1.1 concerning procedures for vertical speed control.*	
5.3.3.6	In so far as practicable, cruising levels of aircraft flying to the same destination shall be assigned in a manner that will be correct for an approach sequence at destination.	It is transposed as GM1 ATS.TR.235(b)(4).
5.3.3.7	An aircraft at a cruising level shall normally have priority over other aircraft requesting that cruising level. When two or more aircraft are at the same cruising level, the preceding aircraft shall normally have priority.	It is transposed as GM1 ATS.TR.235(b)(4).
5.3.3.8	The cruising levels, or, in the case of cruise climb, the range of levels, to be assigned to controlled flights shall be selected from those allocated to IFR flights in: a) the tables of cruising levels in Appendix 3 of Annex 2; or b) a modified table of cruising levels, when so prescribed in accordance with	The principle of this provision is covered by ATS.TR.210(c)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Appendix 3 of Annex 2 for flights above FL 410; except that the correlation of levels to track as prescribed therein shall not apply whenever otherwise indicated in air traffic control clearances or specified by the appropriate ATS authority in AIPs.	
5.3.4	VERTICAL SEPARATION DURING CLIMB OR DESCENT	
5.3.4.1	An aircraft may be cleared to a level previously occupied by another aircraft after the latter has reported vacating it, except when: a) severe turbulence is known to exist; b) the higher aircraft is effecting a cruise climb; or c) the difference in aircraft performance is such that less than the applicable separation minimum may result; in which case such clearance shall be withheld until the aircraft vacating the level has reported at or passing another level separated by the required minimum.	It is transposed as GM2 ATS.TR.210(c)(1).
5.3.4.1.1	When the aircraft concerned are entering or established in the same holding pattern, consideration shall be given to aircraft descending at markedly different rates and, if necessary, additional measures such as specifying a maximum descent rate for the higher aircraft and a minimum descent rate for the lower aircraft should be applied to ensure that the required separation is maintained.	It is transposed as GM2 ATS.TR.210(c)(1).
5.3.4.2	Pilots in direct communication with each other may, with their concurrence, be cleared to maintain a specified vertical separation between their aircraft during ascent or descent.	Not transposed. Provisions in ATS.TR.210 and related AMC/GM address this case.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4	HORIZONTAL SEPARATION	
5.4	*Note 1.— Nothing in the provisions detailed in Sections 5.4.1 and 5.4.2 hereunder precludes a State from establishing:* *a) other minima for use in circumstances not prescribed; or* *b) additional conditions to those prescribed for the use of a given minimum;* *provided that the level of safety inherent in the provisions detailed in Sections 5.4.1 and 5.4.2 hereunder is at all times assured.*	Not transposed.
5.4	*Note 2.— Details on track spacing between parallel routes are provided in Annex 11, Attachments A and B.*	Not transposed.
5.4	*Note 3.— Attention is drawn to the following guidance material:* *a)* Air Traffic Services Planning Manual *(Doc 9426);* *b)* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689); and* *c)* Performance-based Navigation Manual *(Doc 9613).*	Not transposed.
5.4	*Note 4.— Provisions concerning reductions in separation minima are contained in Section 5.11 and in Chapter 2,ATS Safety Management.*	
5.4.1.1.1	Lateral separation shall be applied so that the distance between those portions of the intended routes for which the aircraft are to be laterally separated is never less than an established distance to account for navigational inaccuracies plus a specified buffer. This buffer shall be determined by the appropriate authority and included in the lateral separation minima as an integral part thereof.	It is transposed as GM1 ATS.TR.210(c)(2)(ii).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.1.1.1	*Note.— In the minima specified in 5.4.1.2 an appropriate buffer has already been included.*	Not transposed.
5.4.1.1.2	Lateral separation of aircraft is obtained by requiring operation on different routes or in different geographical locations as determined by visual observation, by the use of navigation aids or by the use of area navigation (RNAV) equipment.	It is transposed as GM1 ATS.TR.210(c)(2)(ii).
5.4.1.1.3	When information is received indicating navigation equipment failure or deterioration below the navigation performance requirements, ATC shall then, as required, apply alternative separation methods or minima.	Not transposed. The general principle is covered by ATS.TR.210(d).
5.4.1.1.4	When an aircraft turns onto an ATS route via a flyover waypoint, a separation other than the normally prescribed lateral separation shall be applied for that portion of the flight between the flyover waypoint where the turn is executed and the next waypoint (see Figures 5-1 and 5-2).	It is transposed as GM1 ATS.TR.210(c)(2)(ii).
5.4.1.1.4	*Note 1.— For flyover waypoints aircraft are required to first fly over the waypoint before executing the turn. After the turn the aircraft may either navigate to join the route immediately after the turn or navigate to the next defined waypoint before re-joining the route. This will require additional lateral separation on the overflown side of the turn.*	It is transposed as GM1 ATS.TR.210(c)(2)(ii).
5.4.1.1.4	*Note 2.— This does not apply to ATS routes that have turns using fly-by waypoints.*	Not transposed.
5.4.1.1.4	*Note 3.— An example of a prescribed lateral separation minima based on a specific navigation performance can be found in 5.4.1.2.1.6.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-1	 **Figure 5-1. Turn over flyover waypoint (See 5.4.1.1.4)**	It is included in GM1 ATS.TR.210(c)(2)(ii).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-2	 **Figure 5-2. Turn at fly-by waypoint (See 5.4.1.1.4)**	It is included in GM1 ATS.TR.210(c)(2)(ii).
5.4.1.2	LATERAL SEPARATION CRITERIA AND MINIMA	
5.4.1.2.1	Means by which lateral separation may be applied include the following:	It is transposed as AMC1 ATS.TR.210(c)(2)(ii).

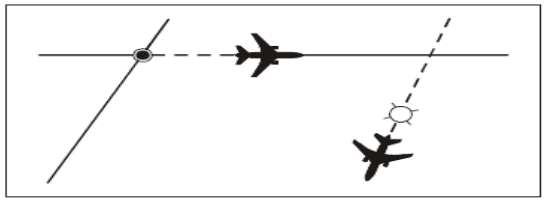
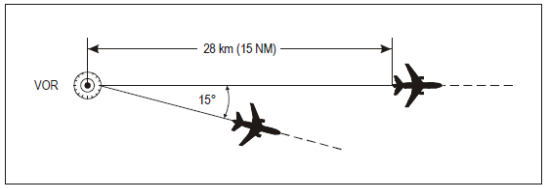
<table>
<tr><th>PANS identifier</th><th>ICAO PANS ATM text</th><th>Proposed transposition into EU ATS requirements (IR/AMC/GM, none)</th></tr>
<tr><td>5.4.1.2.1.1</td><td>By reference to the same or different geographic locations. By position reports which positively indicate the aircraft are over different geographic locations as determined visually or by reference to a navigation aid (see Figure 5-3).</td><td>It is transposed as AMC1 ATS.TR.210(c)(2)(ii).</td></tr>
<tr><td>5.4.1.2.1.2</td><td>By use of NDB, VOR or GNSS on intersecting tracks or ATS routes. By requiring aircraft to fly on specified tracks which are separated by a minimum amount appropriate to the navigation aid employed. Lateral separation between two aircraft exists when:

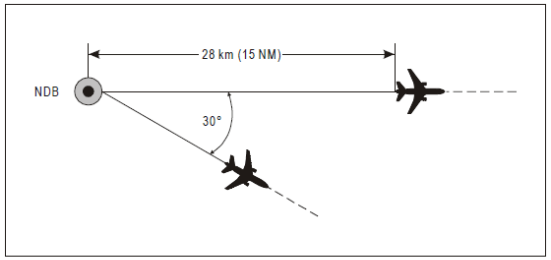
a) VOR: both aircraft are established on radials diverging by at least 15 degrees and at least one aircraft is at a distance of 28 km (15 NM) or more from the facility (see Figure 5-4);

b) NDB: both aircraft are established on tracks to or from the NDB which are diverging by at least 30 degrees and at least one aircraft is at a distance of 28 km (15 NM) or more from the facility (see Figure 5-5);

c) GNSS/GNSS: each aircraft is confirmed to be established on a track with zero offset between two waypoints and at least one aircraft is at a minimum distance from a common point as specified in Table 5-1; or

d) VOR/GNSS: the aircraft using VOR is established on a radial to or from the VOR and the other aircraft using GNSS is confirmed to be established on a track with zero offset between two waypoints and at least one aircraft is at a minimum distance from a common point as specified in Table 5-1.</td><td>It is transposed as AMC1 ATS.TR.210(c)(2)(ii).</td></tr>
<tr><td>Table 5-1</td><td>Table 5-1. Lateral separation for aircraft flying VOR and GNSS<table><tr><td></td><td colspan="2">Aircraft 1: VOR or GNSS
Aircraft 2: GNSS</td></tr><tr><td>Angular difference between tracks measured at the common point (degrees)</td><td>FL010 – FL190
Distance from a common point</td><td>FL200 – FL600
Distance from a common point</td></tr><tr><td>15 – 135</td><td>27.8 km (15 NM)</td><td>43 km (23 NM)</td></tr><tr><td colspan="3">The distances in the table are ground distances. States must take into account the distance (slant range) from the source of a DME signal to the receiving antenna when DME is being utilized to provide range information.</td></tr></table></td><td>It is included in AMC1 ATS.TR.210(c)(2)(ii).</td></tr>
<tr><td>5.4.1.2.1.2</td><td>Note 1.— The values in Table 5-1 are from a larger table of values derived by collision risk analysis. The source table for separation of aircraft navigating by</td><td>Not transposed.</td></tr>
</table>

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	means of GNSS and VOR is contained in Circular 322, Guidelines for the Implementation of GNSS Lateral Separation Minima Based on VOR Separation Minima. *States may refer to Circular 322 for greater detail and other angular differences and separation distances.*	
5.4.1.2.1.2	*Note 2.— The values in Table 5-1 have accounted for distances from the common point encompassed by the theoretical turn area for fly-by turns as specified in the* Minimum Aviation System Performance Standard: Required Navigation Performance for Air Navigation *(ED-75B/DO-236B), section 3.2.5.4, and fixed radius transition turns as defined in the* Performance-based Navigation (PBN) Manual *(Doc 9613).*	Not transposed.
5.4.1.2.1.2	*Note 3.— Guidance material for the implementation of GNSS lateral separation is contained in Circular 322,* Guidelines for the Implementation of GNSS Lateral Separation Minima Based on VOR Separation Minima.	Not transposed.
Figure 5-3	 **Figure 5-3. Using same or different geographic locations (see 5.4.1.2.1.1)**	It is included in AMC1 ATS.TR.210(c)(2)(ii).
Figure 5-4	 **Figure 5-4. Separation using the same VOR (see 5.4.1.2.1.2 a))**	It is included in AMC1 ATS.TR.210(c)(2)(ii).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-5	 **Figure 5-5. Separation using the same NDB (see 5.4.1.2.1.2 b))**	It is included in AMC1 ATS.TR.210(c)(2)(ii).
5.4.1.2.1.2.1	When aircraft are operating on tracks which are separated by considerably more than the minimum in 5.4.1.2.1.2 a) and b), States may reduce the distance at which lateral separation is achieved.	Not transposed.
5.4.1.2.1.2.2	Before applying GNSS-based track separation, the controller shall confirm the following: a) ensure that the aircraft is navigating using GNSS; and b) in airspace where strategic lateral offsets are authorized, that a lateral offset is not being applied.	Not transposed as not relevant for the EU context.
5.4.1.2.1.2.3	In order to minimize the possibility of operational errors, waypoints contained in the navigation database or uplinked to the aircraft flight management system should be used in lieu of manually entered waypoints, when applying GNSS-based track separation. In the event that it is operationally restrictive to use waypoints contained in the navigation database, the use of waypoints that require manual entry by pilots should be limited to a half or whole degree of latitude and longitude.	Not transposed as not addressing ATS.
5.4.1.2.1.2.4	GNSS-based track separation shall not be applied in cases of pilot-reported receiver autonomous integrity monitoring (RAIM) outages.	Not transposed as ATS requirement. The principle is covered by SERA.11013(a) 'Degraded aircraft performance'.

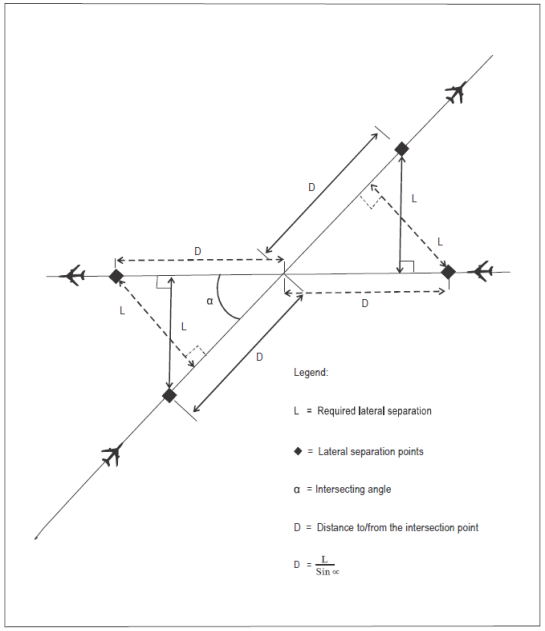
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.1.2.1.2.4	*Note.— For the purpose of applying GNSS-based lateral separation minima, distance and track information derived from an integrated navigation system incorporating GNSS input is regarded as equivalent to GNSS distance and track.*	Not transposed.
5.4.1.2.1.2.5	GNSS receivers used for applying separation shall meet the requirements in Annex 10, Volume I, and be indicated in the flight plan.	Not transposed.
5.4.1.2.1.3	*By use of different navigation aids or methods*. Lateral separation between aircraft using different navigation aids, or when one aircraft is using RNAV equipment, shall be established by ensuring that the derived protected airspaces for the navigation aid(s) or RNP do not overlap.	It is transposed as AMC1 ATS.TR.210(c)(2)(ii).
5.4.1.2.1.4	*Lateral separation of aircraft on published instrument flight procedures for arrivals and departures.*	It is transposed as AMC1 ATS.TR.210(c)(2)(ii).
5.4.1.2.1.4.1	Lateral separation of departing and/or arriving aircraft, using instrument flight procedures, will exist: a) where the distance between any combination of RNAV 1 with RNAV 1, or RNP 1, RNP APCH or RNP AR APCH tracks is not less than 13 km (7 NM); or b) where the distance between any combination of RNP 1, RNP APCH or RNP AR APCH tracks is not less than 9.3 km (5 NM); or c) where the protected areas of tracks designed using obstacle clearance criteria do not overlap and provided operational error is considered.	It is transposed as AMC1 ATS.TR.210(c)(2)(ii).
5.4.1.2.1.4.1	*Note 1.— Distance values contained in a) and b) above were determined by collision risk analysis using multiple navigation specifications. Information on this analysis is contained in Circular 324,* Guidelines for Lateral Separation of Arriving and Departing Aircraft on Published Adjacent Instrument Flight Procedures.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.1.2.1.4.1	*Note 2.— Circular 324 also contains information on separation of arrival and departure tracks using non-overlapping protected areas based on obstacle clearance criteria, as provided for in the* Procedures for Air Navigation Services — Aircraft Operations, *Volume II* — Construction of Visual and Instrument Flight Procedures *(PANS-OPS, Doc 8168).*	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2)(ii).
5.4.1.2.1.4.1	*Note 3.— Provisions concerning reductions in separation minima are contained in Chapter 2, ATS Safety Management, and Chapter 5, Separation Methods and Minima, Section 5.11.*	Not transposed.
5.4.1.2.1.4.1	*Note 4.— Guidance concerning the navigation specifications is contained in the* Performance-based Navigation (PBN) Manual *(Doc 9613).*	Not transposed.
5.4.1.2.1.5	*RNAV operations where RNP is specified on parallel tracks or ATS routes*. Within designated airspace or on designated routes, where RNP is specified, lateral separation between RNAV-equipped aircraft may be obtained by requiring aircraft to be established on the centre lines of parallel tracks or ATS routes spaced at a distance which ensures that the protected airspace of the tracks or ATS routes does not overlap.	It is transposed as AMC1 ATS.TR.210(c)(2)(ii).
5.4.1.2.1.5	*Note.— The spacing between parallel tracks or between parallel ATS route centre lines for which an RNP type is required will be dependent upon the relevant RNP type specified. Guidance material related to the spacing between tracks or ATS routes based on RNP type is contained in Annex 11, Attachment B.*	Not transposed.
5.4.1.2.1.6	*Lateral separation of aircraft on parallel or non-intersecting tracks or ATS routes.* Within designated airspace or on designated routes, lateral separation between aircraft operating on parallel or non-intersecting tracks or ATS routes shall be established in accordance with the following: a) for a minimum spacing between tracks of 93 km (50 NM) a navigational performance of RNAV 10 (RNP 10), RNP 4 or RNP 2 shall be prescribed; b) for a minimum spacing between tracks of 42,6 km (23 NM) a navigational	Not transposed as not suitable to the EU context. Modifications (modified and additional text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	performance of RNP 4 or RNP 2 shall be prescribed. The communication system shall satisfy required communication performance 240 (RCP 240) and the surveillance system shall satisfy required surveillance performance 180 (RSP 180). Conformance monitoring shall be ensured by establishing an ADS-C event contract with a lateral deviation change event with a maximum of 5 NM threshold and a waypoint change event; c) for a minimum spacing between tracks of 27.8 km (15 NM) a navigational performance of RNP 2 or a GNSS equipage shall be prescribed. Direct controller-pilot VHF voice communication shall be maintained while such separation is applied; d) for a minimum spacing between tracks of 13 km (7 NM), applied while one aircraft climbs/descends through the level of another aircraft, a navigational performance of RNP 2 or a GNSS equipage shall be prescribed. Direct controller-pilot VHF voice communication shall be maintained while such separation is applied; and e) for a minimum spacing between tracks of 37 km (20 NM), applied while one aircraft climbs/descends through the level of another aircraft whilst using other types of communication than specified in d) above, a navigational performance of RNP 2 or a GNSS equipage shall be prescribed.	
5.4.1.2.1.6	*Note 1.— Guidance material for the implementation of the navigation capability supporting 93 km (50 NM), 42,6 km (23 NM), 37 km (20 NM), 27.8 km (15 NM) and 13 km (7 NM) lateral separation minima is contained in the* Performance-based Navigation (PBN) Manual *(Doc 9613). Guidance material for the implementation of the 93 km (50 NM), 42.6 km (23 NM), 37 km (20 NM), 27.8 km (15 NM) and 13 km (7 NM) lateral separation minima is contained in Circular 341, Guidelines for the Implementation of Lateral Separation Minima. and Circular 334,* Guidelines for the Implementation of Lateral Separation Minima.	Not transposed as not suitable to the EU context. Modifications (modified text) introduced with ICAO AN-WP/9014.
5.4.1.2.1.6	*Note 2.— Guidance material for implementation of communication and surveillance capability supporting 93 km (50 NM) and 42,6 km (23 NM) lateral separation minima is contained in* Performance-based Communication and	Not transposed as not suitable to the EU context. Modifications (modified text) introduced with ICAO AN-WP/9014.

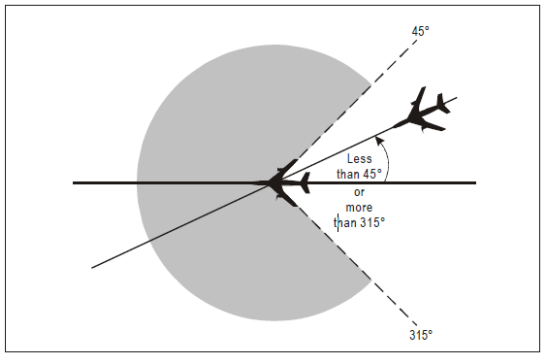
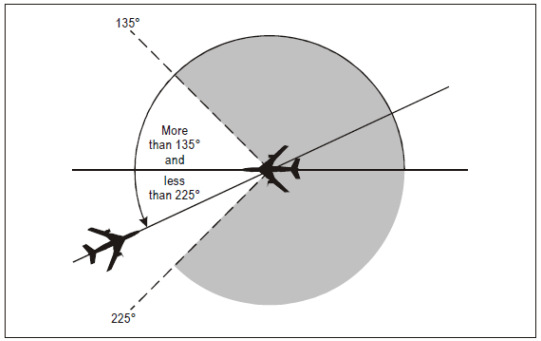
<table>
<tr><th>PANS identifier</th><th>ICAO PANS ATM text</th><th>Proposed transposition into EU ATS requirements (IR/AMC/GM, none)</th></tr>
<tr><td></td><td>Surveillance (PBCS) manual (Doc 9869) and the Global Operational Data Link (GOLD) Manual (Doc. 10037).</td><td></td></tr>
<tr><td>5.4.1.2.1.6</td><td>Note 3.— See Appendix 2, ITEM 10: EQUIPMENT AND CAPABILITIES, in relation to the GNSS prescribed in c), d) and e) above.</td><td>Not transposed as not suitable to the EU context.
Modifications (modified text) introduced with ICAO AN-WP/9014.</td></tr>
<tr><td>5.4.1.2.1.7</td><td>Lateral separation of aircraft on intersecting tracks or ATS routes. Lateral separation between aircraft operating on intersecting tracks or ATS routes shall be established in accordance with the following.
a) an aircraft converging with the track of another aircraft is laterally separated until it reaches a lateral separation point that is located a specified distance measured perpendicularly from the track of the other aircraft (see Figure 5-6); and
b) an aircraft diverging from the track of another aircraft is laterally separated after passing a lateral separation point that is located a specified distance measured perpendicularly from the track of the other aircraft (see Figure 5-6).
This type of separation may be used for tracks that intersect at any angles using the values for lateral separation points specified below:</td><td>Not transposed as not suitable to the EU context.</td></tr>
<tr><td>5.4.1.2.1.7</td><td><table><tr><th>Navigation</th><th>Separation</th></tr><tr><td>RNAV 10 (RNP 10)</td><td>93 km (50 NM)</td></tr><tr><td>RNP 4</td><td>~~55.5~~42.6 km (~~30~~23 NM)</td></tr><tr><td>RNP 2</td><td>27.8 km (15 NM)</td></tr></table></td><td>Not transposed as not suitable to the EU context.
Modifications (modified text) introduced with ICAO AN-WP/9014.
Proposed amendment in RNP 4, replace 55.5 KM(30NM) with 42.6KM(23NM).</td></tr>
<tr><td>5.4.1.2.1.8</td><td>When applying the 27.8 km (15 NM) separation minima specified in the table above, a GNSS, as indicated in the flight plan by the letter G meets the specified navigation performance.</td><td>Not transposed as not suitable to the EU context.
Modifications (modified text) introduced with ICAO AN-WP/9014.</td></tr>
</table>

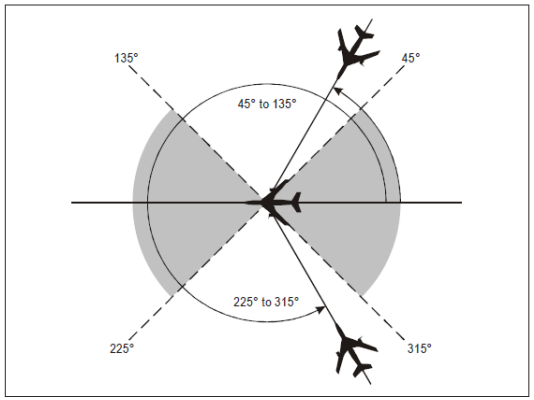
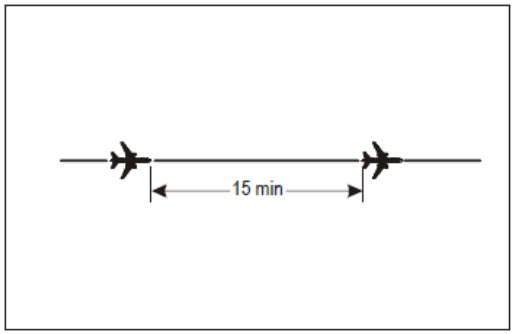
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.1.2.1.8	*Note.— Guidance material for the implementation of the navigation capability supporting 93 km (50 NM), 42,6 km (23 NM), and 27.8 km (15 NM) lateral separation minima is contained in the* Performance-based Navigation (PBN) Manual *(Doc 9613.) Supporting information for the implementation of the 93 km (50 NM), 42.6 km (23 NM) and 27.8 km (15 NM) lateral separation minima is contained in Circular 341,* Guidelines for the Implementation of Lateral Separation Minima.	Not transposed as not suitable to the EU context. Modifications (modified text) introduced with ICAO AN-WP/9014.
5.4.1.2.1.9	*Transitioning into airspace where a greater lateral separation minimum applies*. Lateral separation will exist when aircraft are established on specified tracks which: a) are separated by an appropriate minimum; and b) diverge by at least 15 degrees until the applicable lateral separation minimum is established; providing that it is possible to ensure, by means approved by the appropriate ATS authority, that aircraft have the navigation capability necessary to ensure accurate track guidance.	It is transposed as AMC1 ATS.TR.210(c)(2)(ii).
5.4.2	LONGITUDINAL SEPARATION	
5.4.2.1.1	Longitudinal separation shall be applied so that the spacing between the estimated positions of the aircraft being separated is never less than a prescribed minimum. Longitudinal separation between aircraft following the same or diverging tracks may be maintained by application of speed control, including the Mach number technique. When applicable, use of the Mach number technique shall be prescribed on the basis of a regional air navigation agreement.	It is transposed as GM1 ATS.TR.210(c)(2)(i).
5.4.2.1.1	*Note 1.— Attention is drawn to the guidance material contained in the* Air Traffic Services Planning Manual *(Doc 9426) regarding the application of the Mach number technique to separation of subsonic aircraft.*	Not transposed.

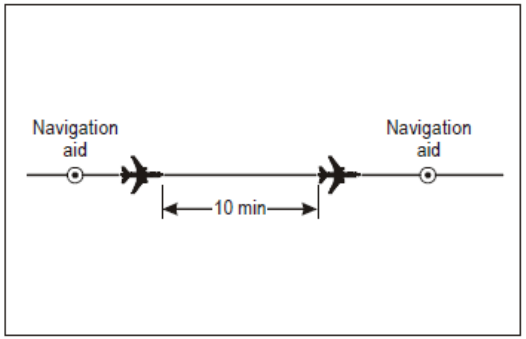
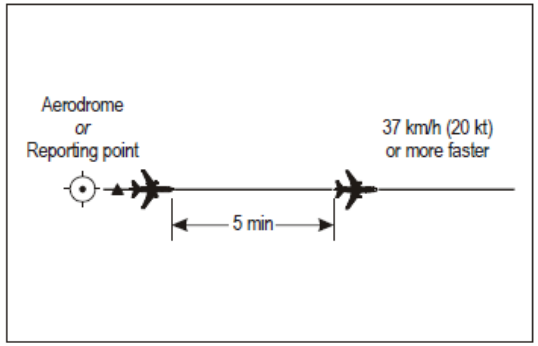
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.1.1	*Note 2.— The Mach number technique is applied using true Mach number.*	Not transposed.
5.4.2.1.2	In applying a time- or distance-based longitudinal separation minimum between aircraft following the same track, care shall be exercised to ensure that the separation minimum will not be infringed whenever the following aircraft is maintaining a higher airspeed than the preceding aircraft. When aircraft are expected to reach minimum separation, speed control shall be applied to ensure that the required separation minimum is maintained.	Not transposed.
Figure 5-6	 **Figure 5-6. Lateral separation points (see 5.4.1.2.1.7)**	Not transposed.

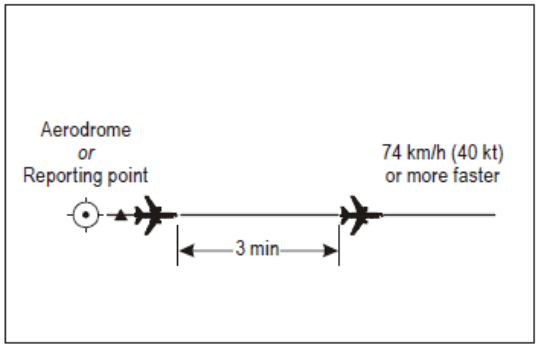
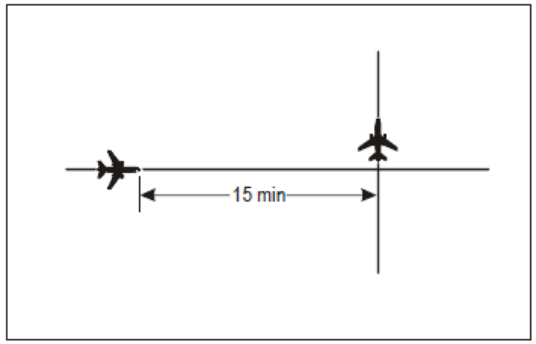
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.1.3	Longitudinal separation may be established by requiring aircraft to depart at a specified time, to arrive over a geographical location at a specified time, or to hold over a geographical location until a specified time.	Not transposed. The general principle is covered by ATS.TR.210(d).
5.4.2.1.4	Longitudinal separation between supersonic aircraft during the transonic acceleration and supersonic phases of flight should normally be established by appropriate timing of the start of transonic acceleration rather than by the imposition of speed restrictions in supersonic flight	It is transposed as GM1 ATS.TR.210(c)(2)(i).
5.4.2.1.5	For the purpose of application of longitudinal separation, the terms *same track*, *reciprocal tracks* and *crossing tracks* shall have the following meanings: a) Same track (see Figure 5-7): same direction tracks and intersecting tracks or portions thereof, the angular difference of which is less than45 degrees or more than 315 degrees, and whose protected airspaces overlap. b) Reciprocal tracks (see Figure 5-8): opposite tracks and intersecting tracks or portions thereof, the angular difference of which is more than 135 degrees but less than 225 degrees, and whose protected airspaces overlap. c) Crossing tracks (see Figure 5-9): intersecting tracks or portions thereof other than those specified in a) and b) above.	It is transposed as GM1 ATS.TR.210(c)(2)(i).
5.4.2.1.6	Time-based separation applied in accordance with 5.4.2.2 and 5.4.2.4 may be based on position information and estimates derived from voice reports, CPDLC or ADS-C.	It is transposed as GM1 ATS.TR.210(c)(2)(i).
5.4.2.2	*LONGITUDINAL SEPARATION MINIMA BASED ON TIME*	

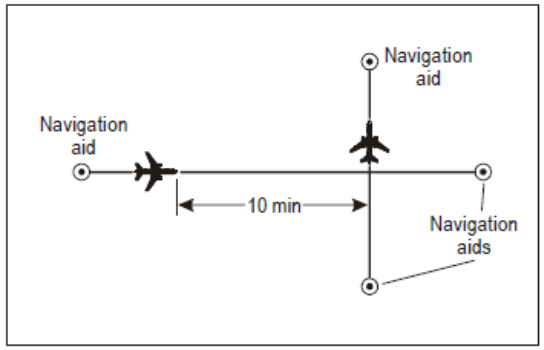
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.2.1.1	*AIRCRAFT MAINTAINING THE SAME LEVEL* *Aircraft flying on the same track:* a) 15 minutes (see Figure 5-10); or b) 10 minutes, if navigation aids permit frequent determination of position and speed (see Figure 5-11); or c) 5 minutes in the following cases, provided that in each case the preceding aircraft is maintaining a true airspeed of 37 km/h (20 kt) or more faster than the succeeding aircraft (see Figure 5-12): 1) between aircraft that have departed from the same aerodrome; 2) between en-route aircraft that have reported over the same exact significant point; 3) between departing and en-route aircraft after the en-route aircraft has reported over a fix that is so located in relation to the departure point as to ensure that five-minute separation can be established at the point the departing aircraft will join the air route; or d) 3 minutes in the cases listed under c) provided that in each case the preceding aircraft is maintaining a true airspeed of 74 km/h (40 kt) or more faster than the succeeding aircraft (see Figure 5-13).	It is transposed as AMC1 ATS.TR.210(c)(2)(i).
5.4.2.2.1.2	*Aircraft flying on crossing tracks* a) 15 minutes at the point of intersection of the tracks (see Figure 5-14); or b) 10 minutes if navigation aids permit frequent determination of position and speed (see Figure 5-15).	It is transposed as AMC1 ATS.TR.210(c)(2)(i).

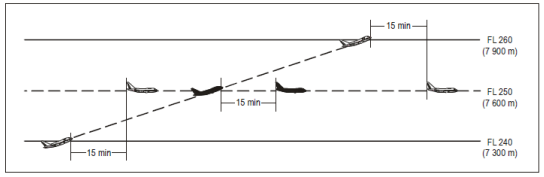
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-7	 **Figure 5-7. Aircraft on same track (see 5.4.2.1.5 a))**	It is included in GM1 ATS.TR.210(c)(2)(i).
Figure 5-8	 **Figure 5-8. Aircraft on reciprocal tracks (see 5.4.2.1.5 b))**	It is included in GM1 ATS.TR.210(c)(2)(i).

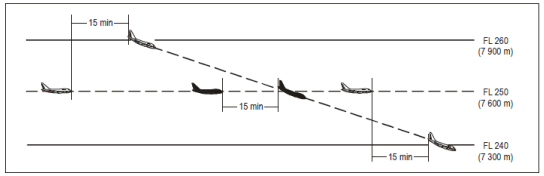
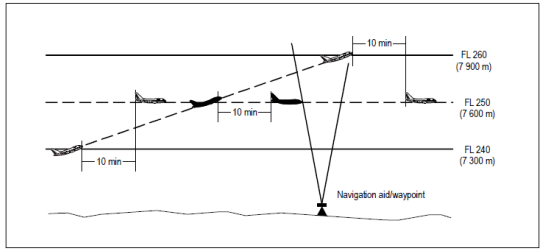
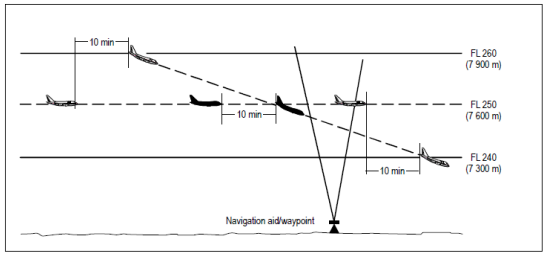
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-9	 **Figure 5-9. Aircraft on crossing tracks (see 5.4.2.1.5 c))**	It is included in GM1 ATS.TR.210(c)(2)(i).
Figure 5-10	 **Figure 5-10. Fifteen-minute separation between aircraft on same track and same level (see 5.4.2.2.1.1 a))**	It is included in AMC1 ATS.TR.210(c)(2)(i).

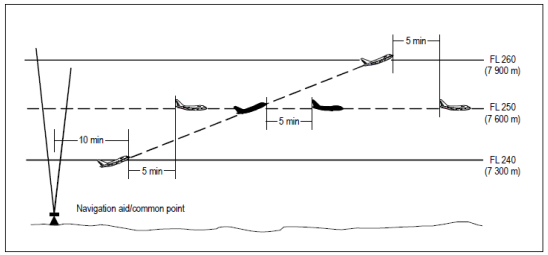
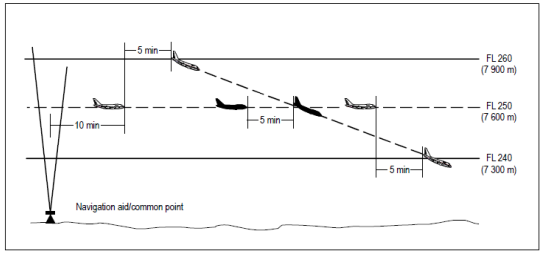
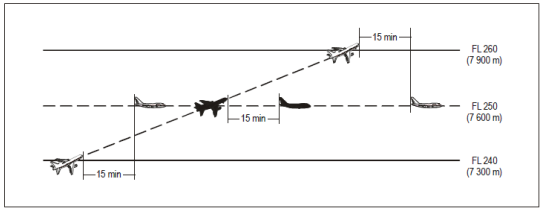
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-11	 **Figure 5-11. Ten-minute separation between aircraft on same track and same level (see 5.4.2.2.1.1 b))**	It is included in AMC1 ATS.TR.210(c)(2)(i).
Figure 5-12	 **Figure 5-12. Five-minute separation between aircraft on same track and same level (see 5.4.2.2.1.1 c))**	It is included in AMC1 ATS.TR.210(c)(2)(i).

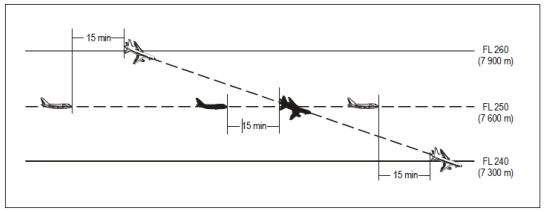
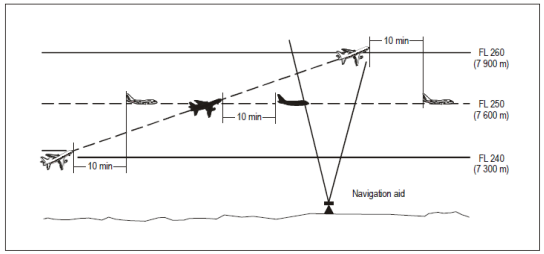
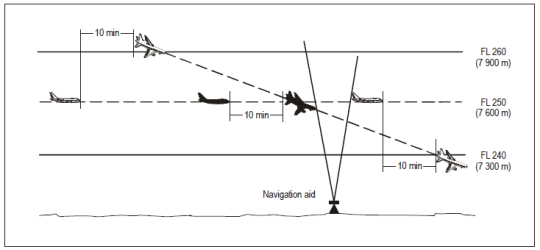
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-13	 **Figure 5-13. Three-minute separation between aircraft on same track and same level (see 5.4.2.2.1.1 d))**	It is included in AMC1 ATS.TR.210(c)(2)(i).
Figure 5-14	 **Figure 5-14. Fifteen-minute separation between aircraft on crossing tracks and same level (see 5.4.2.2.1.2 a))**	It is included in AMC1 ATS.TR.210(c)(2)(i).

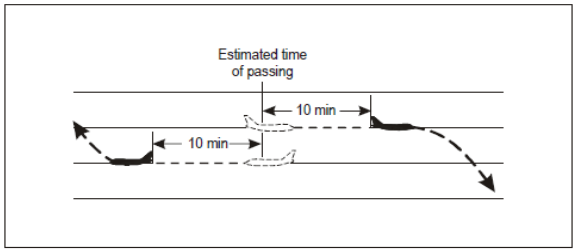
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-15	 **Figure 5-15. Ten-minute separation between aircraft on crossing tracks and same level (see 5.4.2.2.1.2 b))**	It is included in AMC1 ATS.TR.210(c)(2)(i).
5.4.2.2.2.1	*AIRCRAFT CLIMBING OR DESCENDING* *Aircraft on the same track.* When an aircraft will pass through the level of another aircraft on the same track, the following minimum longitudinal separation shall be provided: a) 15 minutes while vertical separation does not exist (see Figures 5-16A and 5-16B); or b) 10 minutes while vertical separation does not exist, provided that such separation is authorized only where ground-based navigation aids or GNSS permit frequent determination of position and speed (see Figures 5-17A and 5-17B); or c) 5 minutes while vertical separation does not exist, provided that: 1) the level change is commenced within 10 minutes of the time the second aircraft has reported over a common point which must be derived from ground-based navigation aids or by GNSS; and 2) when issuing the clearance through third party communication or CPDLC	It is transposed as AMC2 ATS.TR.210(c)(2)(i).

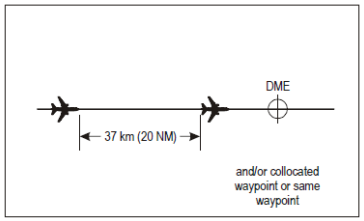
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	a restriction shall be added to the clearance to ensure that the 10-minute condition is satisfied (see Figures 5-18A and 5-18B).	
5.4.2.2.2.1	*Note.— To facilitate application of the procedure where a considerable change of level is involved, a descending aircraft may be cleared to some convenient level above the lower aircraft, or a climbing aircraft to some convenient level below the higher aircraft, to permit a further check on the separation that will be obtained while vertical separation does not exist.*	Not transposed.
5.4.2.2.2.2	*Aircraft on crossing tracks:* a) 15 minutes while vertical separation does not exist (see Figures 5-19A and 5-19B); or b) 10 minutes while vertical separation does not exist if navigation aids permit frequent determination of position and speed (see Figures 5-20A and 5-20B).	It is transposed as AMC2 ATS.TR.210(c)(2)(i).
5.4.2.2.2.3	*Aircraft on reciprocal tracks.* Where lateral separation is not provided, vertical separation shall be provided for at least ten minutes prior to and after the time the aircraft are estimated to pass, or are estimated to have passed (see Figure 5-21). Provided it has been determined that the aircraft have passed each other, this minimum need not apply.	It is transposed as AMC2 ATS.TR.210(c)(2)(i).
Figure 5-16A	 **Figure 5-16A. Fifteen-minute separation between aircraft climbing and on same track (see 5.4.2.2.2.1 a))**	It is included in AMC2 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-16B	 **Figure 5-16B. Fifteen-minute separation between aircraft descending and on same track (see 5.4.2.2.2.1 a))**	It is included in AMC2 ATS.TR.210(c)(2)(i).
Figure 5-17A	 **Figure 5-17A. Ten-minute separation between aircraft climbing and on same track (see 5.4.2.2.2.1 b))**	It is included in AMC2 ATS.TR.210(c)(2)(i).
Figure 5-17B	 **Figure 5-17B. Ten-minute separation between aircraft descending and on same track (see 5.4.2.2.2.1 b))**	It is included in AMC2 ATS.TR.210(c)(2)(i).

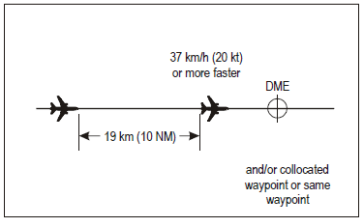
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-18A	 **Figure 5-18A. Five-minute separation between aircraft climbing and on same track (see 5.4.2.2.2.1 c) 2))**	It is included in AMC2 ATS.TR.210(c)(2)(i).
Figure 5-18B	 **Figure 5-18B. Five-minute separation between aircraft descending and on same track (see 5.4.2.2.2.1 c) 2))**	It is included in AMC2 ATS.TR.210(c)(2)(i).
Figure 5-19A	 **Figure 5-19A. Fifteen-minute separation between aircraft climbing and on crossing tracks (see 5.4.2.2.2.2 a))**	It is included in AMC2 ATS.TR.210(c)(2)(i).

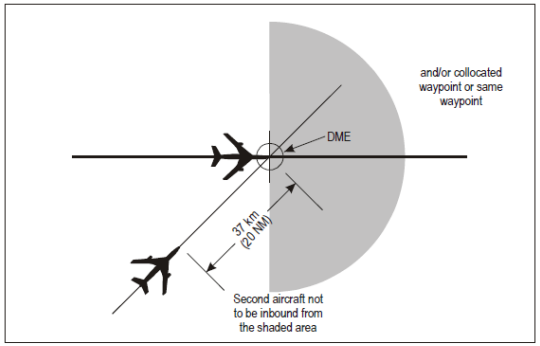
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-19B	 **Figure 5-19B. Fifteen-minute separation between aircraft descending and on crossing tracks (see 5.4.2.2.2.2 a))**	It is included in AMC2 ATS.TR.210(c)(2)(i).
Figure 5-20A	 **Figure 5-20A. Ten-minute separation between aircraft climbing and on crossing tracks (see 5.4.2.2.2.2 b))**	It is included in AMC2 ATS.TR.210(c)(2)(i).
Figure 5-20B	 **Figure 5-20B. Ten-minute separation between aircraft descending and on crossing tracks (see 5.4.2.2.2.2 b))**	It is included in AMC2 ATS.TR.210(c)(2)(i).

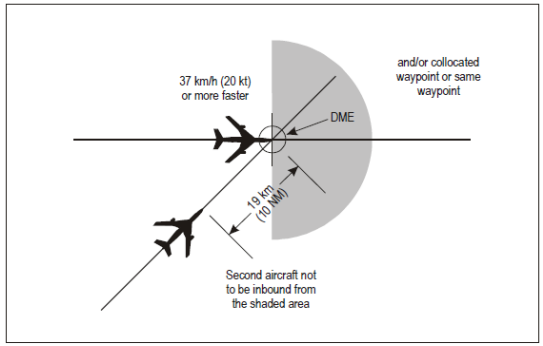
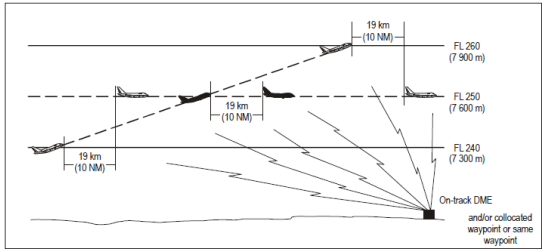
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-21	 **Figure 5-21. Ten-minute separation between aircraft on reciprocal tracks (see 5.4.2.2.3)**	It is included in AMC2 ATS.TR.210(c)(2)(i).
5.4.2.3	*LONGITUDINAL SEPARATION MINIMA BASED ON DISTANCE USING DISTANCE MEASURING EQUIPMENT (DME) AND/OR GNSS* *Note.— Where the term "on track" is used in the provisions relating to the application of longitudinal separation minima using DME and/or GNSS, it means that the aircraft is flying either directly inbound to or directly outbound from the station/waypoint.*	It is transposed as GM1 to AMC3 ATS.TR.210(c)(2)(i) and to AMC4 ATS.TR.210(c)(2)(i).
5.4.2.3.1	Separation shall be established by maintaining not less than specified distance(s) between aircraft positions as reported by reference to DME in conjunction with other appropriate navigation aids and/or GNSS. This type of separation shall be applied between two aircraft using DME, or two aircraft using GNSS, or one aircraft using DME and one aircraft using GNSS. Direct controller-pilot VHF voice communication shall be maintained while such separation is used.	It is transposed as GM1 to AMC3 ATS.TR.210(c)(2)(i) and to AMC4 ATS.TR.210(c)(2)(i).
5.4.2.3.1	*Note.— For the purpose of applying GNSS-based separation minimum, a distance derived from an integrated navigation system incorporating GNSS input is regarded as equivalent to GNSS distance.*	It is transposed as GM1 to AMC3 ATS.TR.210(c)(2)(i) and to AMC4 ATS.TR.210(c)(2)(i).
5.4.2.3.2	When applying these separation minima between any aircraft with area navigation capability, controllers shall specifically request GNSS-derived distance.	It is transposed as GM1 to AMC3 ATS.TR.210(c)(2)(i) and to AMC4 ATS.TR.210(c)(2)(i).

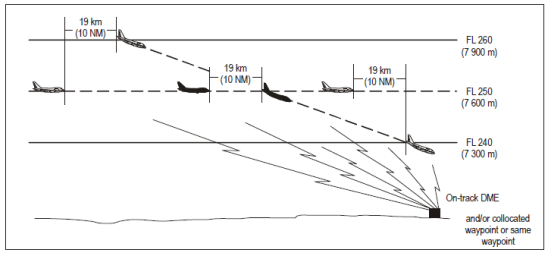
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.3.2	*Note.— Reasons making a pilot unable to provide GNSS distance information may include inadequate on-board equipment, no GNSS input into an integrated navigation system, or a loss of GNSS integrity.*	Not transposed
5.4.2.3.3.1	*AIRCRAFT AT THE SAME CRUISING LEVEL* *Aircraft on the same track:* a) 37 km (20 NM), provided: 1) each aircraft utilizes: i) the same "on-track" DME station when both aircraft are utilizing DME; or ii) an "on-track" DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or iii) the same waypoint when both aircraft are utilizing GNSS; and 2) separation is checked by obtaining simultaneous DME and/or GNSS readings from the aircraft at frequent intervals to ensure that the minimum will not be infringed (see Figure 5-22);	It is transposed as AMC3 ATS.TR.210(c)(2)(i).
Figure 5-22	 **Figure 5-22. 37 km (20 NM) DME and/or GNSS-based separation between aircraft on same track and same level (see 5.4.2.3.3.1 a))**	It is included in AMC3 ATS.TR.210(c)(2)(i).
5.4.2.3.3.1	b) 19 km (10 NM), provided: 1) the leading aircraft maintains a true airspeed of 37 km/h (20 kt) or more	It is transposed as AMC3 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	faster than the succeeding aircraft; 2) each aircraft utilizes: i) the same "on-track" DME station when both aircraft are utilizing DME; or ii) an "on-track" DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or iii) the same waypoint when both aircraft are utilizing GNSS; and 3) separation is checked by obtaining simultaneous DME and/or GNSS readings from the aircraft at such intervals as are necessary to ensure that the minimum is established and will not be infringed (see Figure 5-23).	
5.4.2.3.3.2	*Aircraft on crossing tracks.* The longitudinal separation prescribed in 5.4.2.3.3.1 shall also apply provided each aircraft reports distance from the DME station and/or collocated waypoint or same waypoint located at the crossing point of the tracks and that the relative angle between the tracks is less than 90 degrees (see Figures 5-24A and 5-24B).	It is transposed as AMC3 ATS.TR.210(c)(2)(i).
5.4.2.3.4.1	*AIRCRAFT CLIMBING OR DESCENDING* *Aircraft on the same track:* 19 km (10 NM) while vertical separation does not exist, provided: a) each aircraft utilizes:	It is transposed as AMC4 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-23	 **Figure 5-23. 19 km (10 NM) DME and/or GNSS-based separation between aircraft on same track and same level (see 5.4.2.3.3.1 b))**	It is included in AMC3 ATS.TR.210(c)(2)(i).
5.4.2.3.4.1	i) the same "on-track" DME station when both aircraft are utilizing DME; or ii) an "on-track" DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or iii) the same waypoint when both aircraft are utilizing GNSS; and b) one aircraft maintains a level while vertical separation does not exist; and c) separation is established by obtaining simultaneous DME and/or GNSS readings from the aircraft (see Figures 5-25A and 5-25B).	It is transposed as AMC4 ATS.TR.210(c)(2)(i).
5.4.2.3.4.1	*Note.— To facilitate application of the procedure where a considerable change of level is involved, a descending aircraft may be cleared to some convenient level above the lower aircraft, or a climbing aircraft to some convenient level* *below the higher aircraft, to permit a further check on the separation that will be obtained while vertical separation does not exist.*	Not transposed.
5.4.2.3.4.2	*Aircraft on reciprocal tracks.* Aircraft utilizing on-track DME and/or collocated waypoint or same waypoint may be cleared to climb or descend through the levels occupied by other aircraft utilizing on-track DME and/or collocated waypoint or same waypoint, provided that it has been positively established that the aircraft have passed each other and are at least 10 NM apart, or such other value as prescribed by the	It is transposed as AMC4 ATS.TR.210(c)(2)(i).

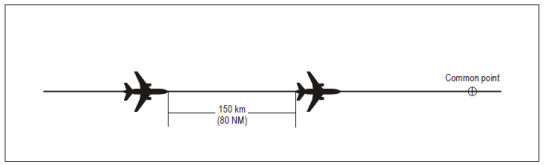
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	appropriate ATS authority.	
5.4.2.4	LONGITUDINAL SEPARATION MINIMA WITH MACH NUMBER TECHNIQUE BASED ON TIME	
5.4.2.4.1	Turbojet aircraft shall adhere to the true Mach number approved by ATC and shall request ATC approval before making any changes thereto. If it is essential to make an immediate temporary change in the Mach number (e.g. due to turbulence), ATC shall be notified as soon as possible that such a change has been made.	Not transposed. To be considered for transposition as SERA.
5.4.2.4.2	If it is not feasible, due to aircraft performance, to maintain the last assigned Mach number during en-route climbs and descents, pilots of aircraft concerned shall advise ATC at the time of the climb/descent request.	Not transposed. To be considered for transposition as SERA.
Figure 5-24A	 **Figure 5-24A. 37 km (20 NM) DME and/or GNSS-based separation between aircraft on crossing tracks and same level (see 5.4.2.3.3.2)**	It is included in AMC3 ATS.TR.210(c)(2)(i).

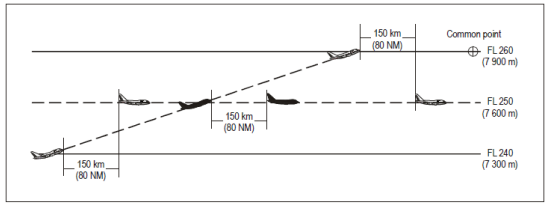
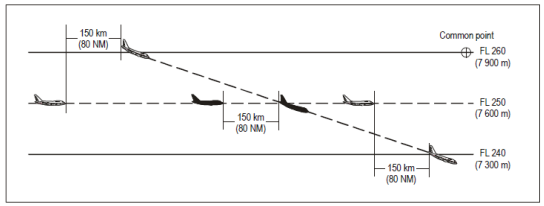
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-24B	 **Figure 5-24B. 19 km (10 NM) DME and/or GNSS-based separation between aircraft on crossing tracks and same level (see 5.4.2.3.3.2)**	It is included in AMC3 ATS.TR.210(c)(2)(i).
Figure 5-25A	 **Figure 5-25A. 19 km (10 NM) DME and/or GNSS-based separation between aircraft climbing and on same track (see 5.4.2.3.4.1 c))**	It is included in AMC4 ATS.TR.210(c)(2)(i).

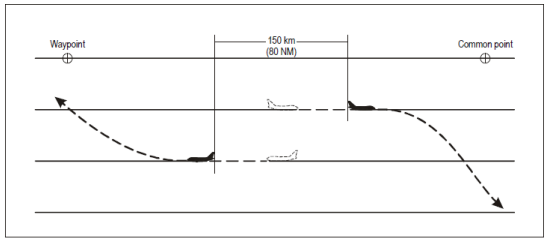
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-25B	 **Figure 5-25B. 19 km (10 NM) DME and/or GNSS-based separation between aircraft descending and on same track (see 5.4.2.3.4.1 c))**	It is included in AMC4 ATS.TR.210(c)(2)(i).
5.4.2.4.3	When the Mach number technique is applied and provided that: a) the aircraft concerned have reported over the same common point and follow the same track or continuously diverging tracks until some other form of separation is provided; or b) if the aircraft have not reported over the same common point and it is possible to ensure, by radar, ADS-B or other means, that the appropriate time interval will exist at the common point from which they either follow the same track or continuously diverging tracks; minimum longitudinal separation between turbojet aircraft on the same track, whether in level, climbing or descending flight shall be: 1) 10 minutes; or 2) between 9 and 5 minutes inclusive, provided that: the preceding aircraft is maintaining a true Mach number greater than the following aircraft in accordance with the following: — 9 minutes, if the preceding aircraft is Mach 0.02 faster than the following aircraft; — 8 minutes, if the preceding aircraft is Mach 0.03 faster than the following aircraft; — 7 minutes, if the preceding aircraft is Mach 0.04 faster than the following	It is transposed as AMC5 ATS.TR.210(c)(2)(i). A question in the NPA is posed on the applicability of this provision in the EU context.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	aircraft; — 6 minutes, if the preceding aircraft is Mach 0.05 faster than the following aircraft; — 5 minutes, if the preceding aircraft is Mach 0.06 faster than the following aircraft.	
5.4.2.4.4	When the 10-minute longitudinal separation minimum with Mach number technique is applied, the preceding aircraft shall maintain a true Mach number equal to or greater than that maintained by the following aircraft.	It is transposed as AMC5 ATS.TR.210(c)(2)(i). A question in the NPA is posed on the applicability of this provision in the EU context.
5.4.2.5	LONGITUDINAL SEPARATION MINIMA WITH MACH NUMBER TECHNIQUE BASED ON DISTANCE USING RNAV	
5.4.2.5	*Note.— Guidance material on RNAV operations is contained in the* Performance-based Navigation Manual *(Doc 9613).*	Not transposed.
5.4.2.5.1	Turbojet aircraft shall adhere to the true Mach number approved by ATC and shall request ATC approval before making any changes thereto. If it is essential to make an immediate temporary change in the Mach number (e.g. due to turbulence), ATC shall be notified as soon as possible that such a change has been made.	Not transposed. To be considered for transposition as SERA.
5.4.2.5.1.1	If it is not feasible, due to aircraft performance, to maintain the last assigned Mach number during en-route climbs and descents, pilots of aircraft concerned shall advise ATC at the time of the climb/descent request.	Not transposed. To be considered for transposition as SERA.
5.4.2.5.2	RNAV distance-based separation minima shall not be applied after ATC has received pilot advice indicating navigation equipment deterioration or failure.	It is transposed as AMC6 ATS.TR.210(c)(2)(i).
5.4.2.5.3	Separation shall be established by maintaining not less than the specified distance between aircraft positions as reported by reference to RNAV equipment. Direct controller-pilot communications should be maintained, while such separation is used. Where high frequency or general purpose extended	It is transposed as GM1 to AMC6 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	range very high frequency air-ground communication channels are used for area control service and are worked by air-ground communicators, suitable arrangements shall be made to permit direct controller-pilot communications, or monitoring by the controller of all air-ground communications.	
5.4.2.5.3.1	To assist pilots to readily provide the required RNAV distance information, such position reports should, wherever possible, be referenced to a common waypoint ahead of both aircraft.	It is transposed as GM1 to AMC6 ATS.TR.210(c)(2)(i).
5.4.2.5.4	RNAV distance-based separation may be applied between RNAV-equipped aircraft when operating on designated RNAV routes or on ATS routes defined by VOR.	It is transposed as GM1 to AMC6 ATS.TR.210(c)(2)(i).
5.4.2.5.5	A 150 km (80 NM) RNAV distance-based separation minimum with Mach number technique may be used on same-direction tracks in lieu of a 10-minute longitudinal separation minimum with Mach number technique, provided: a) each aircraft reports its distance to or from the same "on-track" common point; b) separation between aircraft at the same level is checked by obtaining simultaneous RNAV distance readings from the aircraft at frequent intervals to ensure that the minimum will not be infringed (see Figure 5-26); c) separation between aircraft climbing or descending is established by obtaining simultaneous RNAV distance readings from the aircraft (see Figures 5-27A and 5-27B); and d) in the case of aircraft climbing or descending, one aircraft maintains a level while vertical separation does not exist.	It is transposed as AMC5 ATS.TR.210(c)(2)(i). A question in the NPA is posed on the applicability of this provision in the EU context.
5.4.2.5.6	When the 150 km (80 NM) longitudinal separation minimum with Mach number technique is applied, the preceding aircraft shall maintain a true Mach number equal to or greater than that maintained by the following aircraft.	Not transposed.

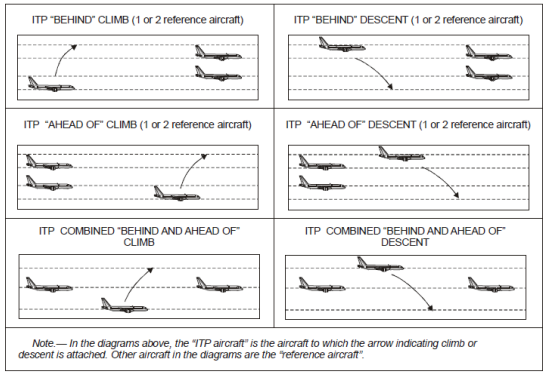
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.5.6	*Note.— To facilitate application of the procedure where a considerable change of level is involved, a descending aircraft may be cleared to some convenient level above the lower aircraft, or a climbing aircraft to some convenient level* *below the higher aircraft, to permit a further check on the separation that will be obtained while vertical separation does not exist.*	It is transposed as GM1 to AMC6 ATS.TR.210(c)(2)(i).
5.4.2.5.7	*Aircraft on reciprocal tracks.* Aircraft utilizing RNAV may be cleared to climb or descend to or through the levels occupied by other aircraft utilizing RNAV provided it has been positively established by simultaneous RNAV distance readings to or from the same "on-track" common point that the aircraft have passed each other and are at least 150 km (80 NM) apart (see Figure 5-28).	It is transposed as AMC5 ATS.TR.210(c)(2)(i).
5.4.2.6	*LONGITUDINAL SEPARATION MINIMA BASED ON DISTANCE USING RNAV WHERE RNP IS SPECIFIED*	The entire Section 5.4.2.6 is not transposed as not considered suitable to the EU context.
5.4.2.6	*Note.— Guidance material is contained in Attachment B to Annex 11, the* Performance-based Navigation Manual *(Doc 9613), the* Air Traffic Services Planning Manual *(Doc 9426) and the* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689).*	Not transposed.
Figure 5-26	 **Figure 5-26. 150 km (80 NM) RNAV-based separation between aircraft at the same level (see 5.4.2.5.5 b))**	It is included in AMC6 ATS.TR.210(c)(2)(i).
5.4.2.6.1	Within designated airspace, or on designated routes, separation minima in accordance with the provisions of this section (5.4.2.6) may be used, subject to regional air navigation agreements.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.6.2	Separation shall be established by maintaining not less than the specified distance between aircraft positions as reported by reference to the same "on-track" common point, whenever possible ahead of both aircraft, or by means of an automated position reporting system.	
5.4.2.6.2	*Note.— The term "on track" means that the aircraft is flying either directly inbound to or directly outbound from the station or waypoint.*	Not transposed.
5.4.2.6.2.1	When information is received indicating navigation equipment failure or deterioration below the navigation performance requirements, ATC shall then, as required, apply alternative separation minima.	Not transposed.
Figure 5-27A	 **Figure 5-27A. 150 km (80 NM) RNAV-based separation between aircraft climbing and on same track (see 5.4.2.5.5 c))**	It is included in AMC6 ATS.TR.210(c)(2)(i).
Figure 5-27B	 **Figure 5-27B. 150 km (80 NM) RNAV-based separation between aircraft descending and on same track (see 5.4.2.5.5 c))**	It is included in AMC6 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-28	 Figure 5-28. 150 km (80 NM) RNAV-based separation between aircraft on reciprocal tracks (see 5.4.2.5.7)	It is included in AMC6 ATS.TR.210(c)(2)(i).
5.4.2.6.2.2	Direct controller-pilot communications shall be maintained while applying a distance-based separation minima. Direct controller-pilot communications shall be voice or CPDLC. The communication criteria necessary for CPDLC to satisfy the requirement for direct controller-pilot communications shall be established by an appropriate safety assessment.	Not transposed.
5.4.2.6.2.2	*Note.— The communication criteria which are used as a basis for the derivation of the separation minima in this section are set out in Appendix 5 of the* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689). Guidance material for CPDLC is contained in the* Manual of Air Traffic Services Data Link Applications *(Doc 9694).*	Not transposed.
5.4.2.6.2.2.1	Prior to and during the application of a distance-based separation minimum, the controller should determine the adequacy of the available communication link, considering the time element required to receive replies from two or more aircraft, and the overall workload/traffic volume associated with the application of such minima.	Not transposed.
5.4.2.6.2.3	When aircraft are at, or are expected to reduce to, the minimum separation applicable, speed control techniques, including assigning Mach number, shall be applied to ensure that the minimum distance exists throughout the period of application of the minima.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.6.3.1	*LONGITUDINAL DISTANCE-BASED SEPARATION MINIMA IN AN RNP RNAV ENVIRONMENT NOT USING ADS-C* For aircraft cruising, climbing or descending on the same track, the following separation minimum may be used:	Not transposed.
5.4.2.6.3.1	*Separation minimum* / *RNP type* / *Communication requirement* / *Surveillance requirement* / *Distance verification requirements* 93 km (50 NM) / 10 / Direct controller-pilot communications / Procedural position reports / At least every 24 minutes	Not transposed.
5.4.2.6.3.1	*Note 1.— Where a considerable change of level is involved using distance-based separation, a descending aircraft may be cleared to some convenient level above the lower aircraft, or a climbing aircraft to some convenient level below* *the higher aircraft (e.g. 1 200 m (4 000 ft) or less) to permit a further check on the separation that will be maintained while vertical separation does not exist.*	Not transposed.
5.4.2.6.3.1	*Note 2.— It should be noted that the separation minimum depicted above is based on safety assessments performed specifically for a particular network of tracks or routes. As such, the assessments evaluated traffic characteristics which might be unique to the network being assessed.*	Not transposed.
5.4.2.6.3.1	*Note 3.— The separation minimum above was developed in accordance with a collision risk analysis which dictates conditions under which this separation can be applied.*	Not transposed.
5.4.2.6.3.1	*Note 4.— Detailed information on the analysis used to determine the separation minimum and on performing safety assessments is contained in the* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689).*	Not transposed.
5.4.2.6.3.2	During the application of the 93 km (50 NM) separation, when an aircraft fails to report its position, the controller shall take action within 3 minutes to	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	establish communication. If communication has not been established within 8 minutes of the time the report should have been received, the controller shall take action to apply an alternative form of separation.	
5.4.2.6.3.3	Where automated position reporting applies, a common time reference shall be used.	Not transposed.
5.4.2.6.3.4	*Aircraft on reciprocal tracks*. Aircraft may be cleared to climb or descend to or through the levels occupied by the other provided that it has been positively established that the aircraft have passed each other and the distance between them is equal to at least the applicable separation minimum.	Not transposed.
5.4.2.7	LONGITUDINAL SEPARATION MINIMA BASED ON DISTANCE USING ADS-B IN-TRAIL PROCEDURE (ITP)	The entire Section 5.4.2.7 is not transposed as not considered suitable to the EU context.
5.4.2.7	*Note 1.— Attention is drawn to Circular 325*, In-Trail Procedure (ITP) Using Automatic Dependent Surveillance — Broadcast (ADS-B).	Not transposed.
5.4.2.7	*Note 2.— Guidance material on ITP equipment can be found in RTCA DO-312/EUROCAE ED-159* Safety Performance and Interoperability Requirements Document for the In-Trail Procedure in Oceanic Airspace (ATSA-ITP) Application *and Supplement and RTCA DO-317A/EUROCAE ED-194*, Minimum Operational Performance Standards (MOPS) for Aircraft Surveillance Application (ASA) System.	Not transposed.
5.4.2.7.1	The routes or airspace where application of the in-trail procedure is authorized, and the procedures to be followed by pilots in accordance with the provisions of Section 5.4.2.7, shall be promulgated in aeronautical information publications (AIPs).	Not transposed.
5.4.2.7.2	ITP requests and clearances shall be communicated via a CPDLC message exchange only and in accordance with the appropriate message elements in Appendix 5.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.7.3	Longitudinal separation between a climbing or descending ITP aircraft and reference aircraft shall be applied in accordance with 5.4.2.7.3.1, 5.4.2.7.3.2 and 5.4.2.7.3.3. An ITP aircraft shall not be separated simultaneously from more than two reference aircraft using the ITP separation minimum (see Figure 5-35).	Not transposed.
Figure 5-35	 Figure 5-35. ITP flight level change scenarios (see 5.4.2.7.3)	Not transposed.
5.4.2.7.3.1	An ITP climb or descent may be requested by the pilot provided the following ITP criteria are satisfied: a) the ITP distance between the ITP aircraft and the reference aircraft shall be: 1) not less than 28 km (15 NM) with a maximum closing ground speed of 37 km/h (20 kt); or 2) not less than 37 km (20 NM) with a maximum closing ground speed of 56 km/h (30 kt); b) the ITP on-board equipment shall indicate that the angle between the current tracks of the ITP aircraft and reference aircraft is less than 45 degrees; c) the altitude difference between the ITP aircraft and any reference aircraft shall be 600 m (2 000 ft) or less; d) the climb or descent shall be conducted at a rate of not less than 1.5 m/s (300	Not transposed.

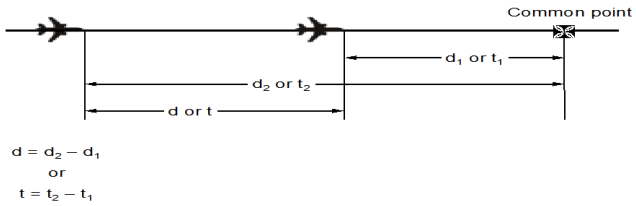
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	ft/min), or any higher rate when specified by the controller; and e) the climb or descent shall be performed at the assigned Mach number. If no Mach number has been assigned by ATC, the ITP aircraft shall maintain the current cruise Mach number throughout the ITP manoeuvre.	
5.4.2.7.3.1	*Note.— These criteria are designed to ensure a minimum separation of 19 km (10 NM) between the ITP aircraft and the reference aircraft during the climb or descent.*	Not transposed.
5.4.2.7.3.2	A controller may clear an aircraft for an ITP climb or descent provided the following conditions are satisfied: a) the ITP climb or descent has been requested by the pilot; b) the aircraft identification of each reference aircraft in the ITP request exactly matches the Item 7 — aircraft identification of the corresponding aircraft's filed flight plan; c) the reported ITP distance between the ITP aircraft and any reference aircraft is 28 km (15 NM) or more; d) both the ITP aircraft and reference aircraft are either on; 1) same identical tracks and any turn at a waypoint shall be limited to less than 45 degrees; or 2) parallel tracks or same tracks with no turns permitted during the manoeuvre.	Not transposed.
5.4.2.7.3.2	*Note.— Same identical tracks are a special case of same track defined in 5.4.2.1.5 a) where the angular difference is zero degrees.*	Not transposed.
5.4.2.7.3.2	e) no speed or route change clearance shall be issued to the ITP aircraft until the ITP climb or descent is completed; f) the altitude difference between the ITP aircraft and any reference aircraft shall be 600 m (2 000 ft) or less;	Not transposed.

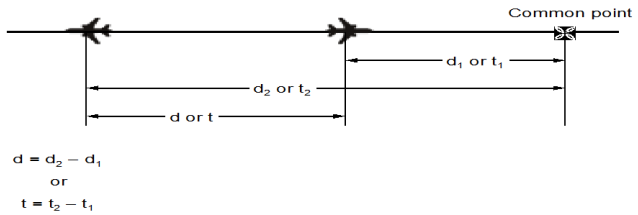
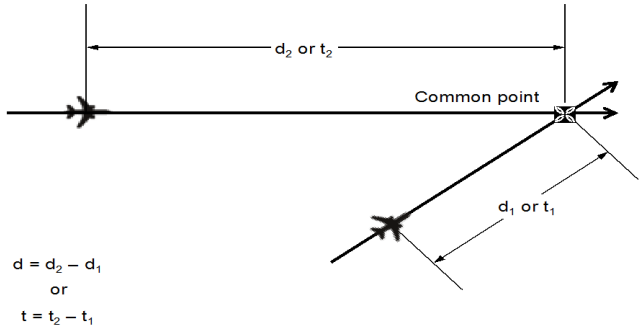
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	g) no instruction to amend speed, altitude or route shall be issued to any reference aircraft until the ITP climb or descent is completed; h) the maximum closing speed between the ITP aircraft and each reference aircraft shall be Mach 0.06; and i) the ITP aircraft shall not be a reference aircraft in another ITP clearance.	
5.4.2.7.3.3	Following receipt of an ITP climb or descent clearance and before initiating the procedure, the pilot of the ITP aircraft shall determine that the ITP criteria referred to in 5.4.2.7.3.1 a) and b) are still being met with respect to the reference aircraft identified in the clearance and: a) if the ITP criteria are satisfied, the pilot shall accept the clearance and commence the climb or descent immediately; or b) if the ITP criteria are no longer satisfied, the pilot shall notify the controller and maintain the previously cleared level.	Not transposed.
5.4.2.8.1	LONGITUDINAL SEPARATION MINIMA BASED ON DISTANCE USING ADS-C CLIMB AND DESCEND PROCEDURE (CDP) When aircraft on the same track is cleared to climb or descend through the level of another aircraft, the clearance should be issued provided the following requirements are met: a) the longitudinal distance between the aircraft is determined by the ground automation system from near simultaneous demand ADS-C reports which contain position accuracy of 0.25 NM or better (Figure of Merit 6 or higher); Note.— Refer to 5.4.2.9.5 for distance calculations. b) the longitudinal distance between the aircraft, as determined in a) above, is not less than: 1) 27.8 km (15 NM) when the preceding aircraft is at the same speed or faster than the following aircraft; or 2) 46.3 km (25 NM) when the following aircraft is not more than either 18.5	Section 5.4.2.8 is not transposed as not considered suitable to the EU context. Modifications (additional text) introduced with ICAO AN-WP/9014.

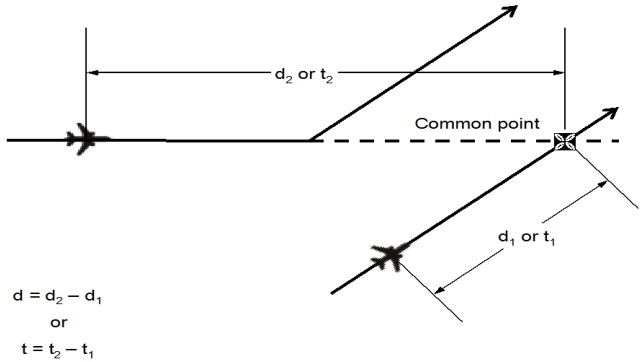
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	km/h (10 kt) or Mach 0.02 faster than the preceding aircraft; c) the altitude difference between aircraft is not greater than 600 m (2000 ft); d) the clearance is issued with a restriction that ensures vertical separation is re-established within 15 minutes from the first demand report request; and e) direct controller-pilot voice communications or CPDLC is maintained.	
5.4.2.8.2	The application of the ADS-C climb and descend procedure (CDP) should be supported by an ongoing monitoring process. Note.— Supporting information on ongoing monitoring is provided in Circular 342, Automatic Dependent Surveillance —Contract (ADS-C) Climb and Descend Procedure (CDP).	
5.4.2.9	PERFORMANCE-BASED LONGITUDINAL SEPARATION MINIMA *Note.— Guidance material for implementation and application of the separation minima in this section is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869), the Global Operational Data Link (GOLD) Manual (Doc 10037), the Satellite Voice Operations Manual (SVOM) (Doc 10038) and the Guidelines for the Implementation of Performance-based Longitudinal Separation Minima (Circular 343).*	Section 5.4.2.9 is not transposed as its introduction in the EU context is considered premature. Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.1	Within designated airspace, or on designated routes, separation minima in accordance with the provisions of this section may be used.	Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.2	The following separation minima may be used for aircraft cruising, climbing or descending on: a) the same track; or b) crossing tracks provided that the relative angle between the tracks is less than 90 degrees.	

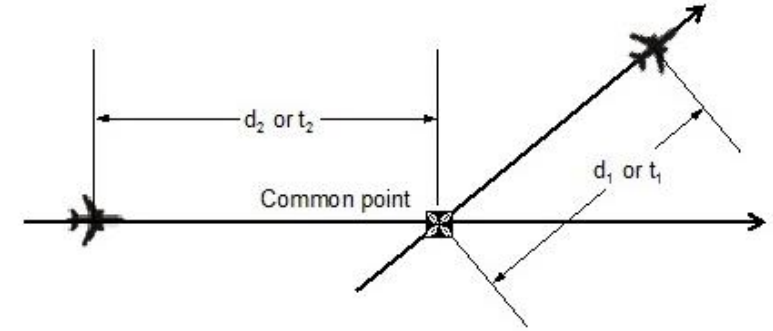
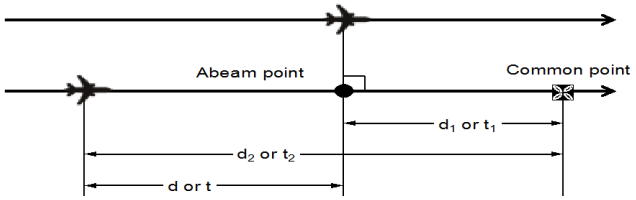
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	<table><tr><th>Separation minima</th><th>RNP</th><th>RCP</th><th>RSP</th><th>Maximum ADS-C periodic reporting interval</th></tr><tr><td rowspan="2">93 km (50 NM)</td><td>10</td><td>240</td><td>180</td><td>27 minutes</td></tr><tr><td>4</td><td>240</td><td>180</td><td>32 minutes</td></tr><tr><td>55.5 km (30 NM)</td><td>2 or 4</td><td>240</td><td>180</td><td>12 minutes</td></tr><tr><td>5 minutes</td><td>2 or 4 or 10</td><td>240</td><td>180</td><td>14 minutes</td></tr></table>	Modifications (additional text) introduced with ICAO AN-WP/9014.
	Note.— Detailed information on the analysis used to determine these separation minima and monitoring procedures is contained in the Guidelines for the Implementation of Performance-based Longitudinal Separation Minima (Circular 343).	Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.3	Opposite-direction aircraft on reciprocal tracks may be cleared to climb or descend to or through the levels occupied by another aircraft provided that ADS-C reports show that the aircraft have passed each other by the applicable separation minimum in 5.4.2.9.2.	Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.4	The five-minute separation shall be calculated to a resolution of one second without rounding.	Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.5	Separation shall be applied so that the distance or time between the calculated positions of the aircraft is never less than the prescribed minimum. This distance or time shall be obtained by one of the following methods: a) when the aircraft are on the same identical track, the distance or time may be measured between the calculated positions of the aircraft or may be calculated by measuring the distances or times to a common point on the track (see Figures 5-29 and 5-30); *Note.— Same identical tracks are a special case of same track defined in 5.4.2.1.5 a) where the angular difference is zero degrees or reciprocal tracks*	Modifications (additional text) introduced with ICAO AN-WP/9014.

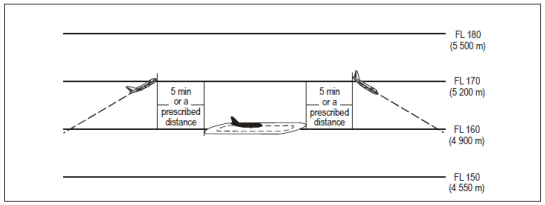
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	defined in 5.4.2.1.5 b) where the angular difference is 180 degrees. b) when the aircraft are on the same or reciprocal non-parallel tracks other than in a) above, or on crossing tracks, the distance or time shall be calculated by measuring the distances or times to the common point of intersection of the tracks or projected track (see Figures 5-31 to 5-33); and c) when the aircraft are on parallel tracks whose protection areas overlap, the distance or time shall be measured along the track of one of the aircraft as in a) above using its calculated position and the point abeam the calculated position of the other aircraft (see Figure 5-34).	
	Note.— In all cases presented in Figures 5-29 to 5-34, "d" and "t" are calculated by subtracting the distance or time of the closer aircraft from the common point from the distance or time of the more distant aircraft from the common point, except in Figure 5-33 where the two distances or times are added and the order of the aircraft is not important in the calculation.	Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.6	The communication system provided to enable the application of the separation minima in 5.4.2.9.2 shall allow a controller, within 4 minutes, to intervene and resolve a potential conflict by contacting an aircraft using the normal means of communication. An alternative means shall be available to allow the controller to intervene and resolve the conflict within a total time of 10.5 minutes, should the normal means of communication fail.	Modifications (additional text) introduced with ICAO AN-WP/9014.
5.4.2.9.7	When an ADS-C periodic or waypoint change event report is not received within 3 minutes of the time it should have been sent, the report is considered overdue and the controller shall take action to obtain the report as quickly as possible, normally by ADS-C or CPDLC. If a report is not received within 6 minutes of the time the original report should have been sent, and there is a possibility of loss of separation with other aircraft, the controller shall take action to resolve any potential conflict(s) as soon as possible. The communication means provided shall be such that the conflict is resolved within a further 7.5 minutes.	Modifications (additional text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.4.2.9.8	When information is received indicating ground or aircraft equipment failure or deterioration below the communication, navigation and surveillance performance requirements, ATC shall then, as required, apply alternative separation minima.	Modifications (additional text) introduced with ICAO AN-WP/9014.
	Figure 5-29. Calculation of longitudinal distance/time between aircraft — identical track, same direction (see 5.4.2.9.5 a))  	Modifications (additional text) introduced with ICAO AN-WP/9014.
	Figure 5-30. Calculation of longitudinal distance/time between aircraft — identical track, opposite direction (see 5.4.2.9.5 a))	Modifications (additional text) introduced with ICAO AN-WP/9014.

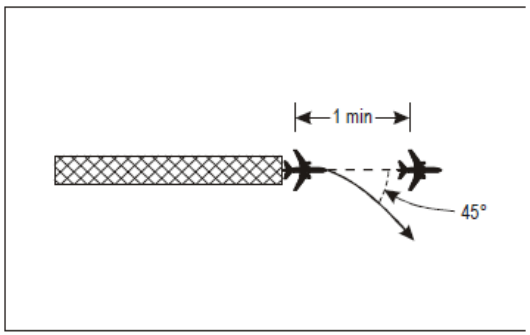
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
		
	Figure 5-31. Calculation of longitudinal distance/time between aircraft — same track, but not identical and crossing tracks (see 5.4.2.9.5 b)) 	Modifications (additional text) introduced with ICAO AN-WP/9014.

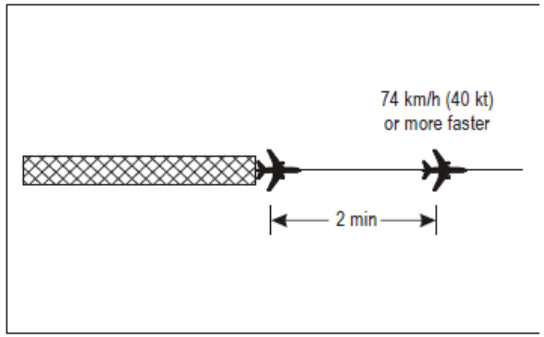
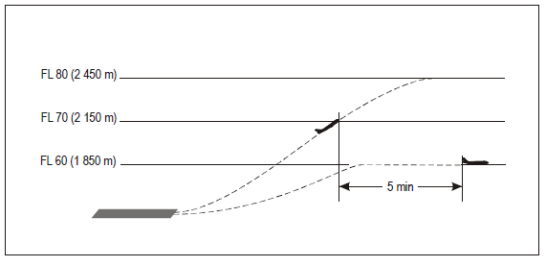
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Figure 5-32. Calculation of longitudinal distance/time between aircraft — same track projected, but not identical (see 5.4.2.9.5 b))  	Modifications (additional text) introduced with ICAO AN-WP/9014.
	Figure 5-33. Calculation of longitudinal distance/time between aircraft — opposite sides of the common point (see 5.4.2.9.5 b))	Modifications (additional text) introduced with ICAO AN-WP/9014.

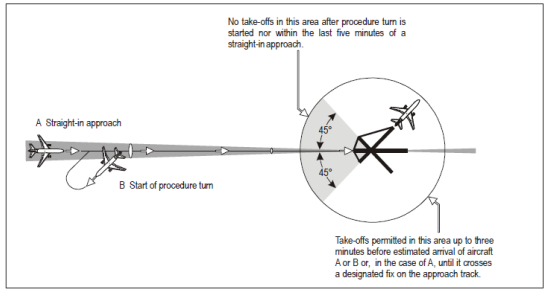
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	 $d = d_2 + d_1$ or $t = t_2 + t_1$	
	Figure 5-34. Calculation of longitudinal distance/time between aircraft – parallel tracks (see 5.4.2.9.5 c))  $d = d_2 - d_1$ or $t = t_2 - t_1$	Modifications (additional text) introduced with ICAO AN-WP/9014.

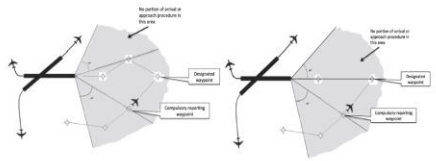
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.5.1	SEPARATION OF AIRCRAFT HOLDING IN FLIGHT Aircraft established in adjacent holding patterns shall, except when lateral separation between the holding areas exists as determined by the appropriate ATS authority, be separated by the applicable vertical separation minimum.	It is transposed as AMC1 ATS.TR.210(c)(1).
5.5.2	Except when lateral separation exists, vertical separation shall be applied between aircraft holding in flight and other aircraft, whether arriving, departing or en route, whenever the other aircraft concerned are within five minutes flying time of the holding area or within a distance prescribed by the appropriate authority (see Figure 5-36).	It is transposed as AMC1 ATS.TR.210(c)(1).
Figure 5-36	 Figure 5-36. Separation between holding aircraft and en-route aircraft (see 5.5.2)	It is included in AMC1 ATS.TR.210(c)(1).
5.6	MINIMUM SEPARATION BETWEEN DEPARTING AIRCRAFT *Note.— The following provisions are complementary to the longitudinal separation minima specified in Section 5.4.2.*	
5.6.1	One-minute separation is required if aircraft are to fly on tracks diverging by at least 45 degrees immediately after take-off so that lateral separation is provided (see Figure 5-37). This minimum may be reduced when aircraft are using parallel runways or when the procedure in Chapter 6, 6.3.3.1, is adopted for operations on diverging runways which do not cross, provided instructions covering the procedure have been approved by the appropriate ATS authority and lateral separation is effected immediately after take-off.	It is transposed as AMC10 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.6.1	*Note 1.— Wake turbulence categories of aircraft are contained in Chapter 4, Section 4.9.1 and longitudinal separation minima are contained in Section 5.8 and in Chapter 8, Section 8.7.*	Not transposed.
5.6.1	*Note 2.— Detailed characteristics of wake vortices and their effect on aircraft are contained in the* Air Traffic Services Planning Manual *(Doc 9426), Part II, Section 5.*	Not transposed.
5.6.2	Two minutes are required between take-offs when the preceding aircraft is 74 km/h (40 kt) or more faster than the following aircraft and both aircraft will follow the same track (see Figure 5-38).	It is transposed as AMC10 ATS.TR.210(c)(2)(i).
5.6.2	*Note.— See Chapter 4, Section 4.6, concerning speed control instructions. Calculations, based on TAS, of speed differentials of aircraft during climb may not be sufficiently accurate in all circumstances for determining if the procedure in 5.6.2 can be applied, in which case calculations based on IAS may be more suitable.*	Not transposed.
5.6.3	Five-minute separation is required while vertical separation does not exist if a departing aircraft will be flown through the level of a preceding departing aircraft and both aircraft propose to follow the same track (see Figure 5-39). Action must be taken to ensure that the five-minute separation will be maintained or increased while vertical separation does not exist.	It is transposed as AMC10 ATS.TR.210(c)(2)(i).
5.7.1	SEPARATION OF DEPARTING AIRCRAFT FROM ARRIVING AIRCRAFT Except as otherwise prescribed by the appropriate ATS authority, the following separation shall be applied when take-off clearance is based on the position of an arriving aircraft.	It is transposed as AMC11 ATS.TR.210(c)(2)(i).
5.7.1.1	If an arriving aircraft is making a complete instrument approach, a departing aircraft may take off: a) in any direction until an arriving aircraft has started its procedure turn or base	It is transposed as AMC11 ATS.TR.210(c)(2)(i).

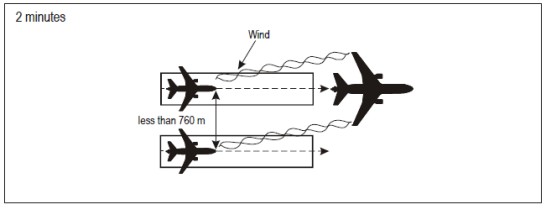
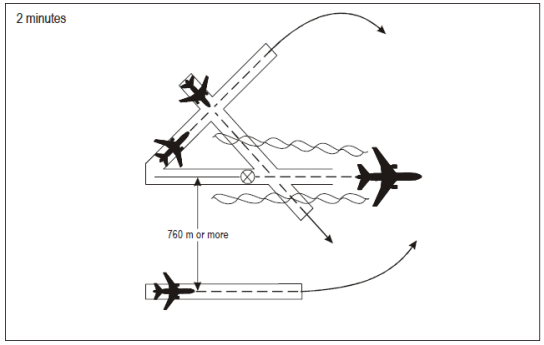
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	turn leading to final approach; b) in a direction which is different by at least 45 degrees from the reciprocal of the direction of approach after the arriving aircraft has started procedure turn or base turn leading to final approach, provided that the take-off will be made at least 3 minutes before the arriving aircraft is estimated to be over the beginning of the instrument runway (see Figure 5-40).	
Figure 5-37	 **Figure 5-37. One-minute separation between departing aircraft following tracks diverging by at least 45 degrees (see 5.6.1)**	It is included in AMC10 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-38	 **Figure 5-38. Two-minute separation between aircraft following same track (see 5.6.2)**	It is included in AMC10 ATS.TR.210(c)(2)(i).
Figure 5-39	 **Figure 5-39. Five-minute separation of departing aircraft following same track (see 5.6.3)**	It is included in AMC10 ATS.TR.210(c)(2)(i).

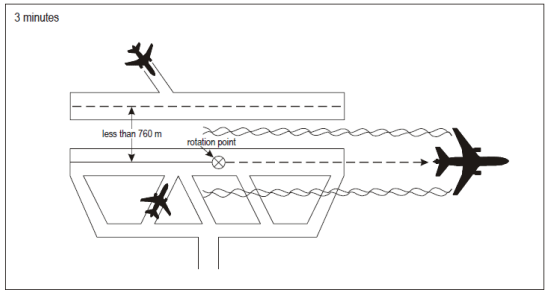
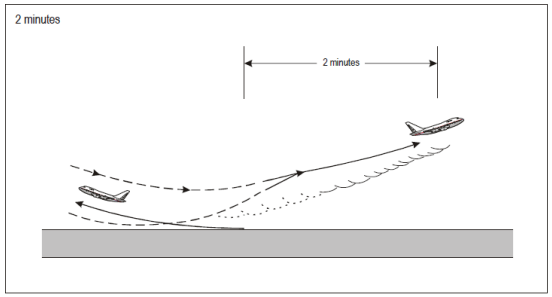
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-40	 **Figure 5-40. Separation of departing aircraft from arriving aircraft (see 5.7.1.1 b) and 5.7.1.2 b))**	
5.7.1.2	If an arriving aircraft is making a straight-in approach, a departing aircraft may take off: a) in any direction until 5 minutes before the arriving aircraft is estimated to be over the instrument runway; b) in a direction which is different by at least 45 degrees from the reciprocal of the direction of approach of the arriving aircraft: 1) until 3 minutes before the arriving aircraft is estimated to be over the beginning of the instrument runway (see Figure 5-40); or 2) before the arriving aircraft crosses a designated fix on the approach track; the location of such fix to be determined by the appropriate ATS authority after consultation with the operators.	It is transposed as AMC11 ATS.TR.210(c)(2)(i).
5.7.1.3	If an arriving aircraft is following an RNAV or RNP instrument flight procedure, a departing aircraft may take off on a departure path that is clear of the arrival protection area for the arriving aircraft (see Figure 5-41) provided: a) vertical separation is applied until the arriving aircraft has reported passing the compulsory reporting waypoint on the instrument flight procedure, the location of such waypoint to be determined by the appropriate ATS authority; b) the take-off takes place before the arriving aircraft crosses a designated waypoint on the instrument flight procedure, the location of such waypoint to be	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.

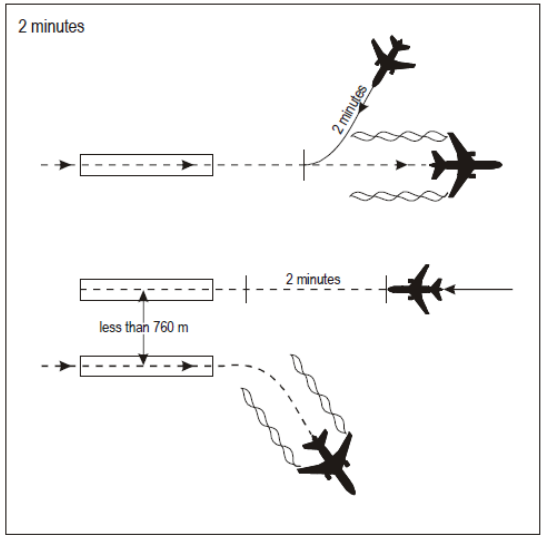
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	determined by the appropriate ATS authority; and c) the departing aircraft remains clear of the arrival protection area until another form of separation is established. *Note. — The arrival protection area is defined as the shaded area extending from a line 45 degrees from an established compulsory reporting waypoint to a line 45 degrees from the outermost edge of the remainder of the arrival and/or approach procedure. (See Figure 5-41).*	
	 Figure 5-41 Examples of Arrival Protection Area	
5.8	TIME-BASED WAKE TURBULENCE LONGITUDINAL SEPARATION MINIMA *Note.— Distance-based wake turbulence separation minima are set forth in Chapter 8, 8.7.3.4.*	
5.8.1.1	APPLICABILITY The ATC unit concerned shall not be required to apply wake turbulence separation: a) for arriving VFR flights landing on the same runway as a preceding landing HEAVY or MEDIUM aircraft; and b) between arriving IFR flights executing visual approach when the aircraft has reported the preceding aircraft in sight and has been instructed to follow and	It is transposed as ATS IR within ATS.TR.220.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	maintain own separation from that aircraft.	
5.8.1.2	The ATC unit shall, in respect of the flights specified in 5.8.1.1 a) and b), as well as when otherwise deemed necessary, issue a caution of possible wake turbulence. The pilot-in-command of the aircraft concerned shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew shall inform the ATC unit accordingly, stating their requirements.	The first sentence is transposed as ATS IR within ATS.TR.220. The second and third sentences are not transposed and are to be considered for transposition by SERA.
5.8.2.1	ARRIVING AIRCRAFT Except as provided for in 5.8.1.1 a) and b), the following separation minima shall be applied.	It is transposed as AMC2 ATS.TR.220.
5.8.2.1.1	The following minima shall be applied to aircraft landing behind a HEAVY or a MEDIUM aircraft: a) MEDIUM aircraft behind HEAVY aircraft — 2 minutes; b) LIGHT aircraft behind a HEAVY or MEDIUM aircraft — 3 minutes.	It is transposed as AMC2 ATS.TR.220. The proposed text includes separation minima to be applied in presence of a category SUPER aircraft which include the aircraft indicated by the competent authority (explicitly the Airbus A380-800). It is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008).
5.8.3.1	DEPARTING AIRCRAFT A minimum separation of 2 minutes shall be applied between a LIGHT or MEDIUM aircraft taking off behind a HEAVY aircraft or a LIGHT aircraft taking off behind a MEDIUM aircraft when the aircraft are using: a) the same runway; b) parallel runways separated by less than 760 m (2 500 ft); c) crossing runways if the projected flight path of the second aircraft will cross the projected flight path of the first aircraft at the same altitude or less than 300	It is transposed as AMC3 ATS.TR.220 The proposed text includes separation minima to be applied in presence of a category SUPER aircraft which include the aircraft indicated by the competent authority (explicitly the Airbus A380-800). It is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	m (1 000 ft) below; d) parallel runways separated by 760 m (2 500 ft) or more, if the projected flight path of the second aircraft will cross the projected flight path of the first aircraft at the same altitude or less than 300 m (1 000 ft) below.	
5.8.3.1	*Note.— See Figures 5-42 and 5-43.*	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
Figure 5-42	 **Figure 5-41. Two-minute separation for following aircraft (see 5.8.3.1 a) and b))**	It is included in AMC3 ATS.TR.220. Modifications (modified numbering) introduced with ICAO AN-WP/9014.
Figure 5-43	 **Figure 5-42. Two-minute wake turbulence separation for crossing aircraft (see 5.8.3.1 c) and d))**	It is included in AMC3 ATS.TR.220. Modifications (modified numbering) introduced with ICAO AN-WP/9014.
5.8.3.2	A separation minimum of 3 minutes shall be applied between a LIGHT or MEDIUM aircraft when taking off behind a HEAVY aircraft or a LIGHT	It is transposed as AMC3 ATS.TR.220. The proposed text includes separation minima to be applied in presence of a

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	aircraft when taking off behind a MEDIUM aircraft from: a) an intermediate part of the same runway; or b) an intermediate part of a parallel runway separated by less than 760 m (2 500 ft).	category SUPER aircraft which include the aircraft indicated by the competent authority (explicitly the Airbus A380-800). It is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008).
5.8.3.2	*Note.— See Figure 5-44.*	Not transposed. Modifications (modified numbering) introduced with ICAO AN-WP/9014.
5.8.4	DISPLACED LANDING THRESHOLD A separation minimum of 2 minutes shall be applied between a LIGHT or MEDIUM aircraft and a HEAVY aircraft and between a LIGHT aircraft and a MEDIUM aircraft when operating on a runway with a displaced landing threshold when: a) a departing LIGHT or MEDIUM aircraft follows a HEAVY aircraft arrival and a departing LIGHT aircraft follows a MEDIUM aircraft arrival; or b) an arriving LIGHT or MEDIUM aircraft follows a HEAVY aircraft departure and an arriving LIGHT aircraft follows a MEDIUM aircraft departure if the projected flight paths are expected to cross.	It is transposed as AMC4 ATS.TR.220. The proposed text includes separation minima to be applied in presence of a category SUPER aircraft which include the aircraft indicated by the competent authority (explicitly the Airbus A380-800). It is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008).
5.8.5	OPPOSITE DIRECTION A separation minimum of 2 minutes shall be applied between a LIGHT or MEDIUM aircraft and a HEAVY aircraft and between a LIGHT aircraft and a MEDIUM aircraft when the heavier aircraft is making a low or missed approach and the lighter aircraft is: a) utilizing an opposite-direction runway for take-off; or	It is transposed as AMC5 ATS.TR.220. The proposed text includes separation minima to be applied in presence of a category SUPER aircraft which include the aircraft indicated by the competent authority (explicitly the Airbus A380-800). It is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008).
5.8.5	*Note.— See Figure 5-45.*	Not transposed. Modifications (modified numbering) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.8.5	b) landing on the same runway in the opposite direction, or on a parallel opposite-direction runway separated by less than 760 m (2 500 ft).	It is transposed as AMC5 ATS.TR.220.
5.8.5	*Note.— See Figure 5-46.*	Not transposed. Modifications (modified numbering) introduced with ICAO AN-WP/9014.
Figure 5-44	 **Figure 5-43. Three-minute wake turbulence separation for following aircraft (see 5.8.3.2)**	It is included in AMC3 ATS.TR.220. Modifications (modified numbering) introduced with ICAO AN-WP/9014.
Figure 5-45	 **Figure 5-44. Two-minute wake turbulence separation for opposite-direction take-off (see 5.8.5 a))**	It is included in AMC5 ATS.TR.220. Modifications (modified numbering) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 5-46	 **Figure 5-45. Two-minute wake turbulence separation for opposite-direction landing (see 5.8.5 b))**	It is included in AMC5 ATS.TR.220. Modifications (modified numbering) introduced with ICAO AN-WP/9014.
5.9	CLEARANCES TO FLY MAINTAINING OWN SEPARATION WHILE IN VISUAL METEOROLOGICAL CONDITIONS	
5.9	*Note 1.— As indicated in this Section, the provision of vertical or horizontal separation by an air traffic control unit is not applicable in respect of any specified portion of a flight cleared subject to maintaining own separation and* *remaining in visual meteorological conditions. It is for the flight so cleared to ensure, for the duration of the clearance, that it is not operated in such proximity to other flights as to create a collision hazard.*	It is transposed as GM1 to AMC1 ATS.TR.210(b).
5.9	*Note 2.— It is axiomatic that a VFR flight must remain in visual meteorological conditions at all times. Accordingly, the issuance of a clearance to a VFR flight to fly subject to maintaining own separation and remaining in visual*	It is transposed as GM1 to AMC1 ATS.TR.210(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	meteorological conditions has no other object than to signify that, for the duration of the clearance, separation from other aircraft by air traffic control is not provided.	
5.9	*Note 3.— The objectives of the air traffic control service as prescribed in Annex 11 do not include prevention of collision with terrain. The procedures prescribed in this document do not relieve pilots of their responsibility to ensure* *that any clearances issued by air traffic control units are safe in this respect. When an IFR flight is vectored or is given a direct routing which takes the aircraft off an ATS route, the procedures in Chapter 8, 8.6.5.2 apply.*	It is transposed as GM1 to AMC1 ATS.TR.210(b).
5.9	When so requested by an aircraft and provided it is agreed by the pilot of the other aircraft and so authorized by the appropriate ATS authority, an ATC unit may clear a controlled flight, including departing and arriving flights, operating in airspace Classes D and E in visual meteorological conditions during the hours of daylight to fly subject to maintaining own separation to one other aircraft and remaining in visual meteorological conditions. When a controlled flight is so cleared, the following shall apply: a) the clearance shall be for a specified portion of the flight at or below 3 050 m (10 000 ft), during climb or descent and subject to further restrictions as and when prescribed on the basis of regional air navigation agreements; b) if there is a possibility that flight under visual meteorological conditions may become impracticable, an IFR flight shall be provided with alternative instructions to be complied with in the event that flight in visual meteorological conditions (VMC) cannot be maintained for the term of the clearance; c) the pilot of an IFR flight, on observing that conditions are deteriorating and considering that operation in VMC will become impossible, shall inform ATC before entering instrument meteorological conditions (IMC) and shall proceed in accordance with the alternative instructions given.	It is transposed as AMC1 ATS.TR.210(b). To be considered for transposition by SERA.
5.9	*Note.— See also 5.10.1.2.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
5.10	ESSENTIAL TRAFFIC INFORMATION	
5.10.1.1	Essential traffic is that controlled traffic to which the provision of separation by ATC is applicable, but which, in relation to a particular controlled flight is not, or will not be, separated from other controlled traffic by the appropriate separation minimum.	It is transposed as GM1 ATS.TR.250(a).
5.10.1.1	*Note.— Pursuant to Section 5.2, but subject to certain exceptions stated therein, ATC is required to provide separation between IFR flights in airspace Classes A to E, and between IFR and VFR flights in Classes B and C. ATC is not required to provide separation between VFR flights, except within airspace Class B. Therefore, IFR or VFR flights may constitute essential traffic to IFR traffic, and IFR flights may constitute essential traffic to VFR traffic. However, a* *VFR flight would not constitute essential traffic to other VFR flights except within Class B airspace.*	It is transposed as GM1 ATS.TR.250(a).
5.10.1.2	Essential traffic information shall be given to controlled flights concerned whenever they constitute essential traffic to each other.	It is transposed as ATS IR ATS.TR.250(a).
5.10.1.2	*Note.— This information will inevitably relate to controlled flights cleared subject to maintaining own separation and remaining in visual meteorological conditions and also whenever the intended separation minimum has been infringed.*	Not transposed.
5.10.2	Essential traffic information shall include: a) direction of flight of aircraft concerned; b) type and wake turbulence category (if relevant) of aircraft concerned; c) cruising level of aircraft concerned; and 1) estimated time over the reporting point nearest to where the level will be crossed; or	It is transposed as AMC1 ATS.TR.250(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	2) relative bearing of the aircraft concerned in terms of the 12-hour clock as well as distance from the conflicting traffic; or 3) actual or estimated position of the aircraft concerned.	
5.10.2	*Note 1. — Nothing in Section 5.10 is intended to prevent ATC from imparting to aircraft under its control any other information at its disposal with a view to enhancing air safety in accordance with the objectives of ATS as defined in Chapter 2 of Annex 11.*	Not transposed.
5.10.2	*Note 2.— Wake turbulence category will only be essential traffic information if the aircraft concerned is of a heavier wake turbulence category than the aircraft to which the traffic information is directed.*	Not transposed.
5.11	*REDUCTION OF SEPARATION MINIMA* *Note.— See also Chapter 2, ATS Safety Management*	
5.11.1	Provided an appropriate safety assessment has shown that an acceptable level of safety will be maintained, and after prior consultation with users, the separation minima detailed in 5.4.1 and 5.4.2 may be reduced in the following circumstances:	It is transposed as AMC3 ATS.TR.210(c)(2).
5.11.1.1	As determined by the appropriate ATS authority as appropriate: a) when special electronic or other aids enable the pilot-in-command of an aircraft to determine accurately the aircraft's position and when adequate communication facilities exist for that position to be transmitted without delay to the appropriate air traffic control unit; or b) when, in association with rapid and reliable communication facilities, information of an aircraft's position, derived from an ATS surveillance system, is available to the appropriate air traffic control unit; or c) when special electronic or other aids enable the air traffic controller to predict rapidly and accurately the flight paths of aircraft, and adequate facilities exist to	It is transposed as AMC3 ATS.TR.210(c)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	verify frequently the actual aircraft positions with the predicted positions; or d) when RNAV-equipped aircraft operate within the coverage of electronic aids that provide the necessary updates to maintain navigation accuracy.	
5.11.1.2	In accordance with regional air navigation agreements when: a) special electronic, area navigation or other aids enable the aircraft to closely adhere to their current flight plans; and b) the air traffic situation is such that the conditions in 5.11.1.1 a) regarding communications between pilots and the appropriate ATC unit or units need not necessarily be met to the degree specified therein.	Not transposed.
5.11.1.2	*Note.— Attention is drawn to the guidance material contained in the* Air Traffic Services Planning Manual *(Doc 9426) regarding conditions governing the reduction of separation minima and to the* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689).*	Not transposed.
6	SEPARATION IN THE VICINITY OF AERODROMES	
6.1	REDUCTION OF SEPARATION MINIMA IN THE VICINITY OF AERODROMES In addition to the circumstances mentioned in Chapter 5, 5.11.1, the separation minima detailed in Chapter 5, 5.4.1 and 5.4.2, may be reduced in the vicinity of aerodromes if: a) adequate separation can be provided by the aerodrome controller when each aircraft is continuously visible to this controller; or b) each aircraft is continuously visible to flight crews of the other aircraft concerned and the pilots thereof report that they can maintain their own separation; or	It is transposed as AMC3 ATS.TR.210(c)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	c) in the case of one aircraft following another, the flight crew of the succeeding aircraft reports that the other aircraft is in sight and separation can be maintained.	
6.2	ESSENTIAL LOCAL TRAFFIC	
6.2.1	Information on essential local traffic known to the controller shall be transmitted without delay to departing and arriving aircraft concerned.	It is transposed as ATS IR ATS.TR.250(b).
6.2.1	*Note 1.— Essential local traffic in this context consists of any aircraft, vehicle or personnel on or near the runway to be used, or traffic in the take-off and climb-out area or the final approach area, which may constitute a collision hazard to a departing or arriving aircraft.*	It is transposed as GM1 ATS.TR.250(b).
6.2.1	*Note 2.— See also Chapter 5, Section 5.10, Chapter 7, 7.4.1.3 and Chapter 8, 8.8.2.*	Not transposed.
6.2.1.1	Essential local traffic shall be described so as to be easily identified.	This provision is identical to provision PANS ATM Chapter 7.4.1.3.3. It is transposed as AMC1 ATS.TR.250(b).
6.3	PROCEDURES FOR DEPARTING AIRCRAFT	
6.3.1.1	Clearances for departing aircraft shall specify, when necessary for the separation of aircraft, direction of take-off and turn after take-off; heading or track to be made good before taking up the cleared departure track; level to maintain before continuing climb to assigned level; time, point and/or rate at which a level change shall be made; and any other necessary manoeuvre consistent with safe operation of the aircraft.	It is transposed as AMC1 ATS.TR.235(b).
6.3.1.2	At aerodromes where standard instrument departures (SIDs) have been established, departing aircraft should normally be cleared to follow the	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	appropriate SID.	
6.3.2	STANDARD CLEARANCES FOR DEPARTING AIRCRAFT	
6.3.2.1	The appropriate ATS authority should, wherever possible, establish standardized procedures for transfer of control between the ATC units concerned, and standard clearances for departing aircraft.	It is transposed as GM1 ATS.TR.230(a)(1)(ii).
6.3.2.1	*Note.— The provisions applying to standardized procedures for coordination and transfer of control are specified in Chapter 10, Section 10.1.1.*	Not transposed.
6.3.2.2.1	Where standard clearances for departing aircraft have been agreed to between the units concerned, the aerodrome control tower will normally issue the appropriate standard clearance without prior coordination with or approval from the approach control unit or ACC.	It is transposed as GM1 ATS.TR.230(a)(1)(ii).
6.3.2.2.2	Prior coordination of clearances should be required only in the event that a variation to the standard clearance or the standardized transfer of control procedures is necessary or desirable for operational reasons.	It is transposed as GM1 ATS.TR.230(a)(1)(ii).
6.3.2.2.3	Provision shall be made to ensure that the approach control unit at all times is kept informed of the sequence in which aircraft will depart as well as the runway to be used.	It is transposed as GM1 ATS.TR.230(a)(1)(ii).
6.3.2.2.4	Provision shall be made to display the designators of assigned SIDs to the aerodrome control tower, the approach control unit and/or the ACC as applicable.	It is transposed as GM1 ATS.TR.230(a)(1)(ii).
6.3.2.3	CONTENTS Standard clearances for departing aircraft shall contain the following items:	It is transposed as AMC2 ATS.TR.235(b). Modifications (modified text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	a) aircraft identification; b) clearance limit, normally destination aerodrome; c) designator of the assigned SID, if applicable; d) cleared level; e) allocated SSR code; f) any other necessary instructions or information not contained in the SID description, e.g. instructions relating to change of frequency.	
6.3.2.3	*Note 1. — See 6.3.2.4.1 for clearances to aircraft on SID.*	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.
6.3.2.3	*Note 2.— The use of a SID designator without a cleared level does not authorize the aircraft to climb on the SID vertical profile*	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.
6.3.2.4	CLEARANCES ON A SID	Modifications (additional text) introduced with ICAO AN-WP/9014.
6.3.2.4.1	Clearances to aircraft on a SID with published and remaining level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled. The following phraseologies shall be used with the following meanings: a) CLIMB VIA SID TO (level): i) climb to the cleared level and comply with published level restrictions; ii) follow the lateral profile of the SID; and iii) comply with published speed restrictions or ATC-issued speed control instructions as applicable. b) CLIMB VIA SID TO (level), CANCEL LEVEL RESTRICTION(S): i) climb to the cleared level, published level restrictions are cancelled;	Modifications (additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	ii) follow the lateral profile of the SID; and iii) comply with published speed restrictions or ATC-issued speed control instructions as applicable. c) CLIMB VIA SID TO (level), CANCEL LEVEL RESTRICTION(S) AT (point(s)): i) climb to the cleared level, published level restriction(s) at the specified point(s) are cancelled; ii) follow the lateral profile of the SID; and iii) comply with published speed restrictions or ATC-issued speed control instructions as applicable. d) CLIMB VIA SID TO (level), CANCEL SPEED RESTRICTION(S): i) climb to the cleared level and comply with published level restrictions; ii) follow the lateral profile of the SID; and iii) published speed restrictions and ATC-issued speed control instructions are cancelled. e) CLIMB VIA SID TO (level), CANCEL SPEED RESTRICTION(S) AT (point(s)): i) climb to the cleared level and comply with published level restrictions; ii) follow the lateral profile of the SID; and iii) published speed restrictions are cancelled at the specified point(s). f) CLIMB UNRESTRICTED TO (level) or CLIMB TO (level), CANCEL LEVEL AND SPEED RESTRICTION(S): i) climb to the cleared level, published level restrictions are cancelled; ii) follow the lateral profile of the SID; and iii) published speed restrictions and ATC-issued speed control instructions are	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	cancelled.	
6.3.2.4.2	If there are no remaining published level or speed restrictions on the SID, the phrase CLIMB TO (level) should be used.	Modifications (additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.3.2.4.3	When subsequent speed restriction instructions are issued, and if the cleared level is unchanged, the phrase CLIMB VIA SID TO (level) should be omitted.	Modifications (additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.3.2.4.4	When a departing aircraft is cleared to proceed direct to a published waypoint on the SID, the speed and level restrictions associated with the bypassed waypoints are cancelled. All remaining published speed and level restrictions shall remain applicable.	Modifications (additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.3.2.4.5	When a departing aircraft is vectored or cleared to proceed to a point that is not on the SID, all the published speed and level restrictions of the SID are cancelled and the controller shall: a) reiterate the cleared level; b) provide speed and level restrictions as necessary; and c) notify the pilot if it is expected that the aircraft will be instructed to subsequently rejoin the SID. Note.— See also 8.6.5.2 regarding prescribed obstacle clearance.	Modifications (additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.3.2.4.6	ATC instructions to an aircraft to rejoin a SID shall include: a) the designator of the SID to be rejoined unless advance notification of rejoin	Modifications (additional text) introduced with ICAO AN-WP/9014. Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	has been provided in accordance with 6.3.2.4.5; b) the cleared level in accordance with 6.3.2.4.1; and c) the position at which it is expected to rejoin the SID. Note.— See 12.3.3.1 for phraseology on rejoin instructions.	To be considered for transposition by SERA.
6.3.2.5.1	COMMUNICATION FAILURE Clearances for departing aircraft may specify a cleared level other than that indicated in the filed flight plan for the en-route phase of flight, without a time or geographical limit for the cleared level. Such clearances will normally be used to facilitate the application of tactical control methods by ATC, normally through the use of an ATS surveillance system.	It is transposed as GM1 to AMC2 ATS.TR.235(b). Modifications (modified text) introduced with ICAO AN-WP/9014.
6.3.2.5.2	Where clearances for departing aircraft contain no time or geographical limit for a cleared level are utilized, action to be taken by an aircraft experiencing air-ground communication failure in the event the aircraft has been radar vectored away from the route specified in its current flight plan should be prescribed on the basis of a regional air navigation agreement and included in the SID description or published in AIPs.	It is transposed as GM1 to AMC2 ATS.TR.235(b). Modifications (modified text) introduced with ICAO AN-WP/9014.
6.3.3	DEPARTURE SEQUENCE	
6.3.3.1	Departing aircraft may be expedited by suggesting a take-off direction which is not into the wind. It is the responsibility of the pilot-in-command of an aircraft to decide between making such a take-off or waiting for take-off in a preferred direction.	It is transposed as GM1 ATS.TR.260.
6.3.3.2	If departures are delayed, the delayed flights shall normally be cleared in an order based on their estimated time of departure, except that deviation from this order may be made to: a) facilitate the maximum number of departures with the least average delay;	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) accommodate requests by an operator in respect of that operator's flights to the extent practicable.	
6.3.3.3	Air traffic control units should, when practicable, advise aircraft operators or their designated representatives when anticipated delays are expected to exceed 30 minutes.	Not transposed.
6.4	INFORMATION FOR DEPARTING AIRCRAFT *Note.— See Chapter 11, 11.4.3, regarding flight information messages.*	
6.4.1	Information regarding significant changes in the meteorological conditions in the take-off or climb-out area, obtained by the unit providing approach control service after a departing aircraft has established communication with such unit, shall be transmitted to the aircraft without delay, except when it is known that the aircraft already has received the information.	It is transposed as AMC1 ATS.TR.305(a);(b).
6.4.1	*Note.— Significant changes in this context include those relating to surface wind direction or speed, visibility, runway visual range or air temperature (for turbine-engined aircraft), and the occurrence of thunderstorm or cumulonimbus,* *moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, severe mountain waves, sandstorm, dust storm, blowing snow, tornado or waterspout.*	It is transposed as GM1 to AMC1 ATS.TR.305(a);(b).
6.4.2	Information regarding changes in the operational status of visual or non-visual aids essential for take-off and climb shall be transmitted without delay to a departing aircraft, except when it is known that the aircraft already has received the information.	It is transposed as AMC2 ATS.TR.305(a)(5).
6.5	PROCEDURES FOR ARRIVING AIRCRAFT	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.5.1.1	When it becomes evident that delays will be encountered by arriving aircraft, operators or designated representatives shall, to the extent practicable, be notified and kept currently informed of any changes in such expected delays.	Not transposed.
6.5.1.2	Arriving aircraft may be required to report when leaving or passing a significant point or navigation aid, or when starting procedure turn or base turn, or to provide other information required by the controller, to expedite departing and arriving aircraft.	Not transposed.
6.5.1.3	An IFR flight shall not be cleared for an initial approach below the appropriate minimum altitude as specified by the State concerned nor to descend below that altitude unless: a) the pilot has reported passing an appropriate point defined by a navigation aid or as a waypoint; or b) the pilot reports that the aerodrome is and can be maintained in sight; or c) the aircraft is conducting a visual approach; or d) the controller has determined the aircraft's position by the use of an ATS surveillance system, and a lower minimum altitude has been specified for use when providing ATS surveillance services.	It is transposed as AMC3 ATS.TR.235(b).
6.5.1.4	At aerodromes where standard instrument arrivals (STARs) have been established, arriving aircraft should normally be cleared to follow the appropriate STAR. The aircraft shall be informed of the type of approach to expect and runway-in-use as early as possible.	Not transposed.
6.5.1.4	*Note.— See Section 6.5.2 concerning Standard arrival clearances.*	Not transposed.
6.5.1.5	After coordination with the approach control unit, the ACC may clear the first arriving aircraft for approach rather than to a holding fix.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.5.2	STANDARD CLEARANCES FOR ARRIVING AIRCRAFT	
6.5.2.1	The appropriate ATS authority should, wherever possible, establish standardized procedures for transfer of control between the ATC units concerned, and standard clearances for arriving aircraft.	It is transposed as GM1 ATS.TR.230(a)(3)(i).
6.5.2.1	*Note.— The provisions applying to standardized procedures for coordination and transfer of control are specified in Chapter 10, Section 10.1.1.*	Not transposed.
6.5.2.2.1	Where standard clearances for arriving aircraft are in use and, provided no terminal delay is expected, clearance to follow the appropriate STAR will normally be issued by the ACC without prior coordination with or approval from the approach control unit or the aerodrome control tower as applicable.	It is transposed as GM1 ATS.TR.230(a)(3)(i).
6.5.2.2.2	Prior coordination of clearances should be required only in the event that a variation to the standard clearance or the standardized transfer of control procedures is necessary or desirable for operational reasons.	It is transposed as GM1 ATS.TR.230(a)(3)(i).
6.5.2.2.3	Provision shall be made to ensure that the approach control unit is at all times kept informed of the sequence of aircraft following the same STAR.	It is transposed as GM1 ATS.TR.230(a)(3)(i).
6.5.2.2.4	Provision shall be made to display the designators of assigned STARs to the ACC, the approach control unit and/or the aerodrome control tower, as applicable.	It is transposed as GM1 ATS.TR.230(a)(3)(i).
6.5.2.3	Standard clearances for arriving aircraft shall contain the following items: a) aircraft identification; b) designator of the assigned STAR, if applicable; c) runway-in-use, except when part of the STAR description; d) cleared level; and	It is transposed as AMC4 ATS.TR.235(b). Modifications (modified and additional text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	e) any other necessary instructions or information not contained in the STAR description, e.g. change of communications. *Note 2.— The use of a STAR designator without a cleared level does not authorize the aircraft to descend on the STAR vertical profile.*	
6.5.2.3	*Note 1.— See 6.5.2.4.1 for clearances on a STAR.*	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.
6.5.2.3	*Note 2.— The use of a STAR designator without a cleared level does not authorize the aircraft to descend on the STAR vertical profile.*	Not transposed. Modifications (additional text) introduced with ICAO AN-WP/9014.
6.5.2.4	CLEARANCES ON A STAR	Modifications (modified text) introduced with ICAO AN-WP/9014.
6.5.2.4.1	Clearances to aircraft on a STAR with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled. The following phraseologies shall be used with the following meaning: a) DESCEND VIA STAR TO (level): i) descend to the cleared level and comply with published level restrictions; ii) follow the lateral profile of the STAR; and iii) comply with published speed restrictions or ATC-issued speed control instructions as applicable. b) DESCEND VIA STAR TO (level), CANCEL LEVEL RESTRICTION(S): i) descend to the cleared level, published level restrictions are cancelled; ii) follow the lateral profile of the STAR; and iii) comply with published speed restrictions or ATC-issued speed control	Modifications (modified and additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	instructions as applicable. c) DESCEND VIA STAR TO (level), CANCEL LEVEL RESTRICTION(S) AT (point(s)): i) descend to the cleared level, published level restriction(s) at the specified point(s) are cancelled; ii) follow the lateral profile of the STAR; and iii) comply with published speed restrictions or ATC-issued speed control instructions as applicable. d) DESCEND VIA STAR TO (level), CANCEL SPEED RESTRICTION(S): i) descend to the cleared level and comply with published level restrictions; ii) follow the lateral profile of the STAR; and iii) published speed restrictions and ATC-issued speed control instructions are cancelled. e) DESCEND VIA STAR TO (level), CANCEL SPEED RESTRICTION(S) AT (point(s)): i) descend to the cleared level and comply with published level restrictions; ii) follow the lateral profile of the STAR; and iii)published speed restrictions are cancelled at the specified point(s). f) DESCEND UNRESTRICTED TO (level) or DESCEND TO (level), CANCEL LEVEL AND SPEED RESTRICTION(S): i) descend to the cleared level, published level restrictions are cancelled; ii) follow the lateral profile of the STAR; and iii) published speed restrictions and ATC-issued speed control instructions are cancelled.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.5.2.4.2	If there are no remaining published level or speed restrictions on the STAR, the phrase DESCEND TO (level) should be used.	Modifications (modified and additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.5.2.4.3	When subsequent speed restriction instructions are issued and if the cleared level is unchanged, the phrase DESCEND VIA STAR TO (level) should be omitted.	Modifications (modified and additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.5.2.4.4	When an arriving aircraft is cleared to proceed direct to a published waypoint on the STAR, the speed and level restrictions associated with the bypassed waypoints are cancelled. All remaining published speed and level restrictions shall remain applicable.	Modifications (modified and additional text) introduced with ICAO AN-WP/9014. Not transposed To be considered for transposition by SERA.
6.5.2.4.5	When an arriving aircraft is vectored or cleared to proceed to a point that is not on the STAR, all the published speed and level restrictions of the STAR are cancelled and the controller shall: a) reiterate the cleared level; b) provide speed and level restrictions as necessary and; c) notify the pilot if it is expected that the aircraft will be instructed to subsequently rejoin the STAR. Note.— See 8.6.5.2 regarding prescribed obstacle clearance.	Modifications (modified and additional text) introduced with ICAO AN-WP/9014. Not transposed. To be considered for transposition by SERA.
6.5.2.4.6	ATC instructions to an aircraft to rejoin a STAR shall include: a) the designator of the STAR to be rejoined, unless advance notification of rejoin has been provided in accordance with 6.5.2.4.5;	Modifications (modified and additional text) introduced with ICAO AN-WP/9014. Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) the cleared level on rejoining the STAR in accordance with 6.5.2.4.1; and c) the position at which it is expected to rejoin the STAR. Note.— See 12.3.3.2 for phraseology on rejoin instructions.	To be considered for transposition by SERA.
6.5.3	VISUAL APPROACH	N.B.: The provisions in chapter 6.5.4 Doc 7030 EUR concerning Visual Departure are transposed in accordance with the same approach adopted for Visual Approach.
6.5.3.1	Subject to the conditions in 6.5.3.3, clearance for an IFR flight to execute a visual approach may be requested by a flight crew or initiated by the controller. In the latter case, the concurrence of the flight crew shall be required.	It is transposed as AMC9 ATS.TR.210(a)(3).
6.5.3.2	Controllers shall exercise caution in initiating a visual approach when there is reason to believe that the flight crew concerned is not familiar with the aerodrome and its surrounding terrain. Controllers should also take into consideration the prevailing traffic and meteorological conditions when initiating visual approaches.	It is transposed as GM1 to AMC9 ATS.TR.210(a)(3).
6.5.3.3	An IFR flight may be cleared to execute a visual approach provided the pilot can maintain visual reference to the terrain and: a) the reported ceiling is at or above the level of the beginning of the initial approach segment for the aircraft so cleared; or b) the pilot reports at the level of the beginning of the initial approach segment or at any time during the instrument approach procedure that the meteorological conditions are such that with reasonable assurance a visual approach and landing can be completed.	It is transposed as AMC9 ATS.TR.210(a)(3).
6.5.3.4	Separation shall be provided between an aircraft cleared to execute a visual approach and other arriving and departing aircraft.	It is transposed as AMC9 ATS.TR.210(a)(3).

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6.5.3.5	For successive visual approaches, separation shall be maintained by the controller until the pilot of a succeeding aircraft reports having the preceding aircraft in sight. The aircraft shall then be instructed to follow and maintain own separation from the preceding aircraft. When both aircraft are of a heavy wake turbulence category, or the preceding aircraft is of a heavier wake turbulence category than the following, and the distance between the aircraft is less than the appropriate wake turbulence minimum, the controller shall issue a caution of possible wake turbulence. The pilot-in-command of the aircraft concerned shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew shall inform the ATC unit accordingly, stating their requirements.	The initial three sentences are transposed as AMC9 ATS.TR.210(a)(3). The last two sentences are to be considered for transposition by SERA.
6.5.3.6	Transfer of communications to the aerodrome controller should be effected at such a point or time that information on essential local traffic, if applicable, and clearance to land or alternative instructions can be issued to the aircraft in a timely manner.	Not transposed.
6.5.4	INSTRUMENT APPROACH	
6.5.4.1	The approach control unit shall specify the instrument approach procedure to be used by arriving aircraft. A flight crew may request an alternative procedure and, if circumstances permit, should be cleared accordingly.	It is transposed as AMC8 ATS.TR.210(a)(3).
6.5.4.2	If a pilot reports or it is clearly apparent to the ATC unit that the pilot is not familiar with an instrument approach procedure, the initial approach level, the point (in minutes from the appropriate reporting point) at which base turn or procedure turn will be started, the level at which the procedure turn shall be carried out and the final approach track shall be specified, except that only the last-mentioned need be specified if the aircraft is to be cleared for a straight-in approach. The frequency(ies) of the navigation aid(s) to be used as well as the missed approach procedure shall also be specified when deemed necessary.	It is transposed as AMC8 ATS.TR.210(a)(3).

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6.5.4.3	If visual reference to terrain is established before completion of the approach procedure, the entire procedure must nevertheless be executed unless the aircraft requests and is cleared for a visual approach.	It is transposed as GM1 to AMC8 ATS.TR.210(a)(3). It is to be considered for transposition by SERA.
6.5.5	HOLDING	
6.5.5.1	In the event of extended delays, aircraft should be advised of the anticipated delay as early as possible and, when practicable, be instructed or given the option to reduce speed en route in order to absorb delay.	It is transposed as GM1 to AMC4 ATS.TR.210(a)(3).
6.5.5.2	When delay is expected, the ACC shall normally be responsible for clearing aircraft to the holding fix, and for including holding instructions, and expected approach time or onward clearance time, as applicable, in such clearances. (See Section 6.5.8.)	It is transposed as AMC4 ATS.TR.210(a)(3).
6.5.5.3	After coordination with the approach control unit, the ACC may clear an arriving aircraft to a visual holding location to hold until further advised by the approach control unit.	Not transposed.
6.5.5.4	After coordination with the aerodrome control tower, the approach control unit may clear an arriving aircraft to a visual holding location to hold until further advised by the aerodrome control tower.	Not transposed.
6.5.5.5	Holding and holding pattern entry shall be accomplished in accordance with procedures established by the appropriate ATS authority and published in AIPs. If entry and holding procedures have not been published or if the procedures are not known to a flight crew, the appropriate air traffic control unit shall specify the designator of the location or aid to be used, the inbound track, radial or bearing, direction of turn in the holding pattern as well as the time of the outbound leg or the distances between which to hold.	It is transposed as GM1 to AMC4 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.5.5.6	Aircraft should normally be held at a designated holding fix. The required minimum vertical, lateral or longitudinal separation from other aircraft shall be provided. Criteria and procedures for the simultaneous use of adjacent holding patterns shall be prescribed in local instructions.	The first sentence is transposed as GM1 to AMC4 ATS.TR.210(a)(3). The third sentence is transposed as GM1 to AMC1 ATS.TR.210(c)(1).
6.5.5.6	*Note.— See Chapter 5, Section 5.5, concerning separation of aircraft holding in flight.*	Not transposed.
6.5.5.7	Levels at a holding fix or visual holding location shall as far as practicable be assigned in a manner that will facilitate clearing each aircraft to approach in its proper priority. Normally, the first aircraft to arrive over a holding fix or visual holding location should be at the lowest level, with following aircraft at successively higher levels.	Not transposed.
6.5.5.8	When extended holding is anticipated, turbojet aircraft should, when practicable, be permitted to hold at higher levels in order to conserve fuel, while retaining their order in the approach sequence.	Not transposed.
6.5.5.9	If an aircraft is unable to comply with the published or cleared holding procedure, alternative instructions shall be issued.	Not transposed.
6.5.5.10	For the purpose of maintaining a safe and orderly flow of traffic, an aircraft may be instructed to orbit at its present or at any other position, provided the required obstacle clearance is ensured.	It is transposed as GM1 to AMC4 ATS.TR.210(a)(3).
6.5.6	APPROACH SEQUENCE	
6.5.6.1	The following procedures shall be applied whenever approaches are in progress.	Not transposed.
6.5.6.1.1	The approach sequence shall be established in a manner which will facilitate arrival of the maximum number of aircraft with the least average delay. Priority	It is transposed as AMC5 ATS.TR.210(a)(3).

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	shall be given to: a) an aircraft which anticipates being compelled to land because of factors affecting the safe operation of the aircraft (engine failure, shortage of fuel, etc.); b) hospital aircraft or aircraft carrying any sick or seriously injured person requiring urgent medical attention; c) aircraft engaged in search and rescue operations; and d) other aircraft as may be determined by the appropriate authority	
6.5.6.1.1	*Note.— An aircraft which has encountered an emergency is handled as outlined in Chapter 15, Section 15.1.*	Not transposed.
6.5.6.1.2	Succeeding aircraft shall be cleared for approach: a) when the preceding aircraft has reported that it is able to complete its approach without encountering instrument meteorological conditions; or b) when the preceding aircraft is in communication with and sighted by the aerodrome control tower, and reasonable assurance exists that a normal landing can be accomplished; or c) when timed approaches are used, the preceding aircraft has passed the defined point inbound, and reasonable assurance exists that a normal landing can be accomplished;	It is transposed as AMC5 ATS.TR.210(a)(3).
6.5.6.1.2	*Note.— See 6.5.6.2.1 concerning timed approach procedures.*	Not transposed.
6.5.6.1.2	d) when the use of an ATS surveillance system confirms that the required longitudinal spacing between succeeding aircraft has been established.	It is transposed as AMC5 ATS.TR.210(a)(3).
6.5.6.1.3	In establishing the approach sequence, the need for increased longitudinal spacing between arriving aircraft due to wake turbulence shall be taken into	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	account.	
6.5.6.1.4	If the pilot of an aircraft in an approach sequence has indicated an intention to hold for weather improvement, or for other reasons, such action shall be approved. However, when other holding aircraft indicate intention to continue their approach to land, the pilot desiring to hold will be cleared to an adjacent fix for holding awaiting weather change or re-routing. Alternatively, the aircraft should be given a clearance to place it at the top of the approach sequence so that other holding aircraft may be permitted to land. Coordination shall be effected with any adjacent ATC unit or control sector, when required, to avoid conflict with the traffic under the jurisdiction of that unit or sector.	Not transposed.
6.5.6.1.5	When establishing the approach sequence, an aircraft which has been authorized to absorb a specified period of notified terminal delay by cruising at a reduced speed en route, should, in so far as practicable, be credited with the time absorbed en route.	Not transposed.
6.5.6.2	SEQUENCING AND SPACING OF INSTRUMENT APPROACHES	
6.5.6.2.1	TIMED APPROACH PROCEDURE	
6.5.6.2.1.1	Subject to approval by the appropriate ATS authority, the following procedure should be utilized as necessary to expedite the approaches of a number of arriving aircraft: a) a suitable point on the approach path, which shall be capable of being accurately determined by the pilot, shall be specified, to serve as a checkpoint in timing successive approaches; b) aircraft shall be given a time at which to pass the specified point inbound, which time shall be determined with the aim of achieving the desired interval between successive landings on the runway while respecting the applicable	It is transposed as GM1 to AMC5 ATS.TR.210(a)(3).

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	separation minima at all times, including the period of runway occupancy.	
6.5.6.2.1.2	The time at which aircraft should pass the specified point shall be determined by the unit providing approach control service and notified to the aircraft sufficiently in advance to permit the pilot to arrange the flight path accordingly.	It is transposed as GM1 to AMC5 ATS.TR.210(a)(3).
6.5.6.2.1.3	Each aircraft in the approach sequence shall be cleared to pass the specified point inbound at the previously notified time, or any revision thereof, after the preceding aircraft has reported passing the point inbound.	It is transposed as GM1 to AMC5 ATS.TR.210(a)(3).
6.5.6.2.2	INTERVAL BETWEEN SUCCESSIVE APPROACHES	
6.5.6.2.2	In determining the time interval or longitudinal distance to be applied between successive approaching aircraft, the relative speeds between succeeding aircraft, the distance from the specified point to the runway, the need to apply wake turbulence separation, runway occupancy times, the prevailing meteorological conditions as well as any condition which may affect runway occupancy times shall be considered. When an ATS surveillance system is used to establish an approach sequence, the minimum distance to be established between succeeding aircraft shall be specified in local instructions. Local instructions shall additionally specify the circumstances under which any increased longitudinal distance between approaches may be required as well as the minima to be used under such circumstances.	It is transposed as GM1 to AMC5 ATS.TR.210(a)(3).
6.5.6.2.3	INFORMATION ON APPROACH SEQUENCE	
6.5.6.2.3	Provision shall be made to ensure that the aerodrome control tower is kept informed of the sequence in which aircraft will be established on final approach for landing.	The transposition of Section 10.1.4.2.1 as AMC3 ATS.TR.230(b)(2) covers this provision.

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6.5.6.2.3	*Note 1.— Guidance material on factors to be taken into account when determining separation for timed approaches is contained in the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
6.5.6.2.3	*Note 2.— Wake turbulence categories and wake turbulence separation minima are contained in Chapter 4,Section 4.9, Chapter 5, Section 5.8 and Chapter 8, Section 8.7.*	Not transposed.
6.5.6.2.3	*Note 3.— Detailed characteristics of wake vortices and their effect on aircraft are contained in the* Air Traffic Services Planning Manual *(Doc 9426), Part II, Section 5.*	Not transposed.
6.5.7.1	EXPECTED APPROACH TIME	
6.5.7.1	An expected approach time shall be determined for an arriving aircraft that will be subjected to a delay of 10 minutes or more or such other period as has been determined by the appropriate authority. The expected approach time shall be transmitted to the aircraft as soon as practicable and preferably not later than at the commencement of its initial descent from cruising level. A revised expected approach time shall be transmitted to the aircraft without delay whenever it differs from that previously transmitted by 5 minutes or more, or such lesser period of time as has been established by the appropriate ATS authority or agreed between the ATS units concerned.	It is transposed as AMC6 ATS.TR.210(a)(3).
6.5.7.2	An expected approach time shall be transmitted to the aircraft by the most expeditious means whenever it is anticipated that the aircraft will be required to hold for 30 minutes or more.	It is transposed as AMC6 ATS.TR.210(a)(3).
6.5.7.3	The holding fix to which an expected approach time relates shall be identified together with the expected approach time whenever circumstances are such that this would not otherwise be evident to the pilot.	It is transposed as AMC6 ATS.TR.210(a)(3).

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6.5.8	ONWARD CLEARANCE TIME	
6.5.8	In the event an aircraft is held en route or at a location or aid other than the initial approach fix, the aircraft concerned shall, as soon as practicable, be given an expected onward clearance time from the holding fix. The aircraft shall also be advised if further holding at a subsequent holding fix is expected.	It is transposed as AMC7 ATS.TR.210(a)(3).
6.5.8	*Note.— "Onward clearance time" is the time at which an aircraft can expect to leave the fix at which it is being held.*	It is transposed in Annex I as a definition, as follows: **'Onward clearance time' is the time at which an aircraft can expect to leave the fix at which it is being held.**
6.6	INFORMATION FOR ARRIVING AIRCRAFT	
6.6	*Note.— See Chapter 11, 11.4.3, regarding flight information messages.*	
6.6.1	As early as practicable after an aircraft has established communication with the unit providing approach control service, the following elements of information, in the order listed, shall be transmitted to the aircraft, with the exception of such elements which it is known the aircraft has already received: a) type of approach and runway-in-use; b) meteorological information, as follows: 1) surface wind direction and speed, including significant variations; 2) visibility and, when applicable, runway visual range (RVR); 3) present weather; 4) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility	It is transposed as AMC10 ATS.TR.210(a)(3).

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	when available; 5) air temperature; 6) dew point temperature, inclusion determined on the basis of a regional air navigation agreement; 7) altimeter setting(s); 8) any available information on significant meteorological phenomena in the approach area; and 9) trend-type landing forecast, when available.	
6.6.1	*Note.— The meteorological information listed above is identical to that required in ATIS broadcasts for arriving aircraft as specified in Annex 11, 4.3.7 j) to r), and is to be extracted from local meteorological routine and special reports, in accordance with Chapter 11, 11.4.3.2.2 to 11.4.3.2.3.*	Not transposed.
6.6.1	c) current runway surface conditions, in case of precipitants or other temporary hazards; d) changes in the operational status of visual and non-visual aids essential for approach and landing.	It is transposed as AMC10 ATS.TR.210(a)(3).
6.6.2	In applying the provisions in 6.7.3.1.1, it should be recognized that information published by NOTAM or disseminated by other means may not have been received by the aircraft prior to departure or during en-route flight.	Not transposed.
6.6.3	If it becomes necessary or operationally desirable that an arriving aircraft follow an instrument approach procedure or use a runway other than that initially stated, the flight crew shall be advised without delay.	Not transposed.
6.6.4	At the commencement of final approach, the following information shall be transmitted to aircraft: a) significant changes in the mean surface wind direction and speed;	It is transposed as AMC10 ATS.TR.210(a)(3).

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6.6.4	*Note.— Significant changes are specified in Annex 3, Chapter 4. However, if the controller possesses wind information in the form of components, the significant changes are:* *— Mean headwind component: 19 km/h (10 kt)* *— Mean tailwind component: 4 km/h (2 kt)* *— Mean crosswind component: 9 km/h (5 kt)*	The second sentence is transposed as GM1 to AMC10 ATS.TR.210(a)(3).
6.6.4	b) the latest information, if any, on wind shear and/or turbulence in the final approach area; c) the current visibility representative of the direction of approach and landing or, when provided, the current runway visual range value(s) and the trend.	It is transposed as AMC10 ATS.TR.210(a)(3).
6.6.5	During final approach, the following information shall be transmitted without delay: a) the sudden occurrence of hazards (e.g. unauthorized traffic on the runway); b) significant variations in the current surface wind, expressed in terms of minimum and maximum values; c) significant changes in runway surface conditions; d) changes in the operational status of required visual or non-visual aids; e) changes in observed RVR value(s), in accordance with the reported scale in use, or changes in the visibility representative of the direction of approach and landing.	It is transposed as AMC10 ATS.TR.210(a)(3).
6.7.1	OPERATIONS ON PARALLEL OR NEAR PARALLEL RUNWAYS	
6.7.1	GENERAL Where parallel or near-parallel runways are used for simultaneous operations,	ATS IR ATS.TR.255 is established to support the transposition of the relevant provisions in Chapter 6.7 as AMC and GM.

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	the requirements and procedures below shall apply.	
6.7.1	*Note.— Guidance material is contained in the* Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) *(Doc 9643).*	It is transposed as GM1 ATS.TR.255.
6.7.2	DEPARTING AIRCRAFT	
6.7.2.1	Parallel runways may be used for independent instrument departures as follows: a) both runways are used exclusively for departures (independent departures); b) one runway is used exclusively for departures while the other runway is used for a mixture of arrivals and departures (semi-mixed operation); and c) both runways are used for mixed arrivals and departures (mixed operation).	It is transposed as AMC1 ATS.TR.255.
6.7.2.2	Independent IFR departures may be conducted from parallel runways provided: a) the runway centre lines are spaced by the distance specified in Annex 14, Volume I; b) the departure tracks diverge by at least 15 degrees immediately after take-off; c) suitable surveillance radar capable of identification of the aircraft within 2 km (1.0 NM) from the end of the runway is available; and d) ATS operational procedures ensure that the required track divergence is achieved.	It is transposed as AMC1 ATS.TR.255.
6.7.3	ARRIVING AIRCRAFT	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.7.3.1.1	Parallel runways may be used for simultaneous instrument operations for: a) independent parallel approaches; or b) dependent parallel approaches; or c) segregated parallel operations.	Not transposed.
6.7.3.1.2	Whenever parallel approaches are carried out, separate controllers should be responsible for the sequencing and spacing of arriving aircraft to each runway.	It is transposed as AMC2 ATS.TR.255.
6.7.3.2.1	Independent parallel approaches may be conducted to parallel runways provided that: a) the runway centre lines are spaced by the distance specified in Annex 14, Volume I 1) where runway centre lines are spaced by less than 1 310 m but not less than 1 035 m, suitable secondary surveillance radar (SSR) equipment, with a minimum azimuth accuracy of 0.06 degrees (one sigma), an update period of 2.5 seconds or less and a high resolution display providing position prediction and deviation alert is available; or 2) where runway centre lines are spaced by less than 1 525 m but not less than 1 310 m, SSR equipment with performance specifications other than the foregoing may be applied, provided they are equal to or better than those stated under 3) below, and when it is determined that the safety of aircraft operation would not be adversely affected; or 3) where runway centre lines are spaced by 1 525 m or more, suitable surveillance radar with a minimum azimuth accuracy of 0.3 degrees (one sigma) or better and update period of 5 seconds or less is available; For the above cases, other equivalent ATS surveillance systems (e.g. ADS-B or MLAT) may be used to provide the services detailed above provided that a performance capability equal to or better than that required for the above can be demonstrated.	The first sentence is transposed as AMC2 ATS.TR.255. The second sentence is transposed as GM1 to AMC2 ATS.TR.255.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.7.3.2.1	*Note.— Guidance material pertaining to use of ADS-B and multilateration (MLAT) systems and their system performance is contained in the* Assessment of ADS-B and Multilateration Surveillance to Support Air Traffic Services and Guidelines for Implementation *(Cir 326).*	Not transposed.
6.7.3.2.1	b) instrument landing system (ILS) and/or microwave landing system (MLS) approaches are being conducted on both runways; c) the missed approach track for one approach diverges by at least 30 degrees from the missed approach track of the adjacent approach; d) an obstacle survey and evaluation is completed, as appropriate, for the areas adjacent to the final approach segments; e) aircraft are advised of the runway identification and ILS localizer or MLS frequency as early as possible; f) vectoring is used to intercept the ILS localizer course or the MLS final approach track; g) a no transgression zone (NTZ) at least 610 m (2 000 ft) wide is established equidistant between extended runway centre lines and is depicted on the situation display;	It is transposed as AMC2 ATS.TR.255.
6.7.3.2.1	h) separate controllers monitor the approaches to each runway and ensure that when the 300 m (1 000 ft) vertical separation is reduced: 1) aircraft do not penetrate the depicted NTZ; and 2) the applicable minimum longitudinal separation between aircraft on the same ILS localizer course or MLS final approach track is maintained; and	It is transposed as AMC2 ATS.TR.255.
	i) if no dedicated radio channels are available for the controllers to control the aircraft until landing: 1) transfer of communication of aircraft to the respective aerodrome controller's	It is transposed as AMC2 ATS.TR.255.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	channel is effected before the higher of two aircraft on adjacent final approach tracks intercepts the ILS glide path or the specified MLS elevation angle; and 2) the controllers monitoring the approaches to each runway are provided with the capability to override transmissions of aerodrome control on the respective radio channels for each arrival flow.	
6.7.3.2.2	As early as practicable after an aircraft has established communication with approach control, the aircraft shall be advised that independent parallel approaches are in force. This information may be provided through the ATIS broadcasts.	The first sentence is to be transposed as AMC2 ATS.TR.255. The second sentence is transposed as GM2 to AMC2 ATS.TR.255.
6.7.3.2.3	When vectoring to intercept the ILS localizer course or MLS final approach track, the final vector shall enable the aircraft to intercept the ILS localizer course or MLS final approach track at an angle not greater than 30 degrees and to provide at least 2 km (1.0 NM) straight and level flight prior to ILS localizer course or MLS final approach track intercept. The vector shall also enable the aircraft to be established on the ILS localizer course or MLS final approach track in level flight for at least 3.7 km (2.0 NM) prior to intercepting the ILS glide path or specified MLS elevation angle.	It is transposed as AMC2 ATS.TR.255.
6.7.3.2.4	A minimum of 300 m (1 000 ft) vertical separation or, subject to radar system and situation display capabilities, a minimum of 5.6 km (3.0 NM) radar separation shall be provided until aircraft are established: a) inbound on the ILS localizer course and/or MLS final approach track; and b) within the normal operating zone (NOZ).	It is transposed as AMC2 ATS.TR.255.
6.7.3.2.5	Subject to radar system and situation display capabilities, a minimum of 5.6 km (3.0 NM) radar separation shall be provided between aircraft on the same ILS localizer course or MLS final approach track unless increased longitudinal separation is required	It is transposed as GM4 to AMC2 ATS.TR.255.

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	due to wake turbulence or for other reasons.	
6.7.3.2.5	*Note 1.— See Chapter 8, 8.7.3.4.*	Not transposed.
6.7.3.2.5	*Note 2.— An aircraft established on an ILS localizer course or MLS final approach track is separated from another aircraft established on an adjacent parallel ILS localizer course or MLS final approach track provided neither aircraft penetrates the NTZ as depicted on the situation display.*	It is transposed as GM4 to AMC2 ATS.TR.255.
6.7.3.2.6	When assigning the final heading to intercept the ILS localizer course or MLS final approach track, the runway shall be confirmed, and the aircraft shall be advised of: a) its position relative to a fix on the ILS localizer course or MLS final approach track; b) the altitude to be maintained until established on the ILS localizer course or MLS final approach track to the ILS glide path or specified MLS elevation angle intercept point; and c) if required, clearance for the appropriate ILS or MLS approach.	It is transposed as GM3 to AMC2 ATS.TR.255.
6.7.3.2.7	All approaches regardless of meteorological conditions shall be provided with flight path monitoring using radar. Control instructions and information necessary to ensure separation between aircraft and to ensure aircraft do not enter the NTZ shall be issued.	The first sentence is not transposed as the principle is already covered by AMC2 ATS.TR.255 point (b)(12). The second sentence is transposed as GM5 to AMC2 ATS.TR.255.
6.7.3.2.7	*Note 1.— The primary responsibility for navigation on the ILS localizer course and/or MLS final approach track rests with the pilot. Control instructions and information are therefore issued only to ensure separation between aircraft and to ensure that aircraft do not penetrate the NTZ.*	The first sentence is transposed as GM5 to AMC2 ATS.TR.255. The second sentence is not transposed.

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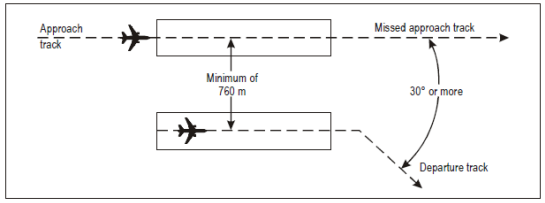
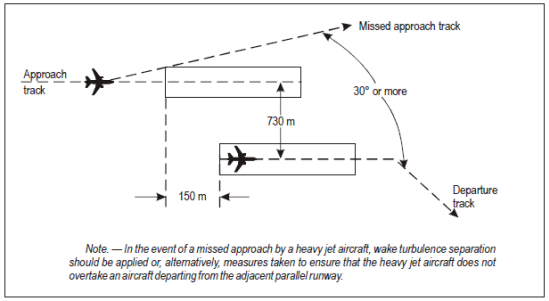
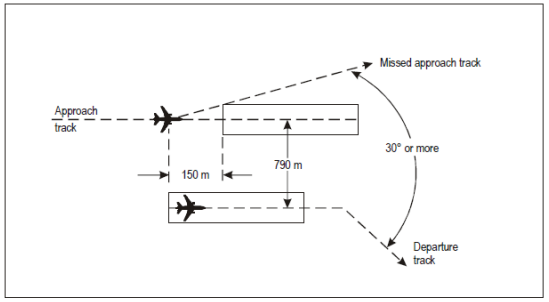
6.7.3.2.7	*Note 2.— For the purpose of ensuring an aircraft does not penetrate the NTZ, the aircraft is considered to be the centre of its position symbol. However, the edges of the position symbols representing aircraft executing parallel* *approaches are not allowed to touch (see Chapter 8, 8.7.2).*	Not transposed.
6.7.3.2.8	When an aircraft is observed to overshoot the turn-on or to continue on a track which will penetrate the NTZ, the aircraft shall be instructed to return immediately to the correct track.	It is transposed as GM3 to AMC2 ATS.TR.255.
6.7.3.2.9	When an aircraft is observed penetrating the NTZ, the aircraft on the adjacent ILS localizer course or MLS final approach track shall be instructed to immediately climb and turn to the assigned altitude/height and heading in order to avoid the deviating aircraft. Where parallel approach obstacle assessment surfaces (PAOAS) criteria are applied for the obstacle assessment, the air traffic controller shall not issue the heading instruction to the aircraft below 120 m (400 ft) above the runway threshold elevation, and the heading instruction shall not exceed 45 degrees track difference with the ILS localizer course or MLS final approach track.	It is transposed as GM3 to AMC2 ATS.TR.255.
6.7.3.2.10	Flight path monitoring using radar shall not be terminated until: a) visual separation is applied, provided procedures ensure that both controllers are advised whenever visual separation is applied; b) the aircraft has landed, or in case of a missed approach, is at least 2 km (1.0 NM) beyond the departure end of the runway and adequate separation with any other traffic is established.	It is transposed as AMC2 ATS.TR.255.
6.7.3.2.10	*Note.— There is no requirement to advise the aircraft that flight path monitoring using radar is terminated.*	Not transposed.
6.7.3.3	Independent parallel approaches to parallel runways spaced by less than 1 525 m between their centre lines shall be suspended under certain meteorological conditions, as prescribed by the appropriate ATS authority, including wind	It is transposed as AMC2 ATS.TR.255.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	shear, turbulence, downdrafts, crosswind and significant meteorological conditions such as thunderstorms, which might otherwise increase ILS localizer course and/ or MLS final approach track deviations to the extent that safety may be impaired.	
6.7.3.3	*Note 1.— The increase in final approach track deviations would additionally result in an unacceptable level of deviation alerts being generated.*	Not transposed.
6.7.3.3	*Note 2.— Guidance material relating to meteorological conditions is contained in the* Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) *(Doc 9643).*	It is transposed as GM6 to AMC2 ATS.TR.255.
6.7.3.4.1	Dependent parallel approaches may be conducted to parallel runways provided: a) the runway centre lines are spaced by the distance specified in Annex 14, Volume I; b) the aircraft are vectored to intercept the final approach track; c) suitable surveillance radar with a minimum azimuth accuracy of 0.3 degrees (one sigma) and update period of 5 seconds or less is available; d) ILS and/or MLS approaches are being conducted on both runways; e) aircraft are advised that approaches are in use to both runways (this information may be provided through the ATIS); f) the missed approach track for one approach diverges by at least 30 degrees from the missed approach track of the adjacent approach; and g) approach control has a frequency override capability to aerodrome control.	It is transposed as AMC3 ATS.TR.255, with the exception of the second sentence of point e), which is transposed as GM1 to AMC3 ATS.TR.255.
6.7.3.4.2	A minimum of 300 m (1 000 ft) vertical separation or a minimum of 5.6 km (3.0 NM) radar separation shall be provided between aircraft during turn-on to parallel ILS localizer courses and/or MLS final approach tracks.	It is transposed as AMC3 ATS.TR.255.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.7.3.4.3	The minimum radar separation to be provided between aircraft established on the ILS localizer course and/or MLS final approach track shall be: a) 5.6 km (3.0 NM) between aircraft on the same ILS localizer course or MLS final approach track unless increased longitudinal separation is required due to wake turbulence; and b) 3.7 km (2.0 NM) between successive aircraft on adjacent ILS localizer courses or MLS final approach tracks.	It is transposed as AMC3 ATS.TR.255.
6.7.3.5.1	Segregated parallel operations may be conducted on parallel runways provided: a) the runway centre lines are spaced by the distance specified in Annex 14, Volume I; and b) the nominal departure track diverges immediately after take-off by at least 30 degrees from the missed approach track of the adjacent approach (see Figure 6-1).	It is transposed as AMC4 ATS.TR.255.
6.7.3.5.2	The minimum distance between parallel runway centre lines for segregated parallel operations may be decreased by 30 m for each 150 m that the arrival runway is staggered toward the arriving aircraft, to a minimum of 300 m (see Figure 6-2) and should be increased by 30 m for each 150 m that the arrival runway is staggered away from the arriving aircraft (see Figure 6-3).	It is transposed as AMC4 ATS.TR.255.
Figure 6-1	 Figure 6-1. Segregated parallel operations (see 6.7.3.5.1 b))	It is included in AMC4 ATS.TR.255.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 6-2	 **Figure 6-2. Segregated parallel operations where runways are staggered (see 6.7.3.5.2)**	It is included in AMC4 ATS.TR.255.
Figure 6-3	 **Figure 6-3. Segregated parallel operations where runways are staggered (see 6.7.3.5.2)**	It is included in AMC4 ATS.TR.255.
6.7.3.5.3	The following types of approaches may be conducted in segregated parallel operations provided suitable surveillance radar and the appropriate ground facilities conform to the standard necessary for the specific type of approach: a) ILS and/or MLS precision approach; b) surveillance radar approach (SRA) or precision approach radar (PAR) approach; and c) visual approach.	It is transposed as AMC4 ATS.TR.255.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
6.7.3.5.3	*Note.— Guidance material is contained in the* Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) *(Doc 9643).*	Not transposed.
7	PROCEDURES FOR AERODROME CONTROL SERVICE *Note.— This Chapter also includes procedures for the operation of aeronautical ground lights, see Section 7.15.*	Note not transposed.
7.1	FUNCTIONS OF AERODROME CONTROL TOWERS	
7.1.1	GENERAL	
7.1.1.1	Aerodrome control towers shall issue information and clearances to aircraft under their control to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the object of preventing collision(s) between: a) aircraft flying within the designated area of responsibility of the control tower, including the aerodrome traffic circuits; b) aircraft operating on the manoeuvring area; c) aircraft landing and taking off; d) aircraft and vehicles operating on the manoeuvring area; e) aircraft on the manoeuvring area and obstructions on that area.	It is transposed as AMC1 ATS.TR.205(c).
7.1.1.2	Aerodrome controllers shall maintain a continuous watch on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the manoeuvring area. Watch shall be maintained by visual observation, augmented in low visibility conditions by an ATS surveillance system when available. Traffic shall be controlled in accordance with the procedures set forth herein and all applicable traffic rules specified by the appropriate ATS authority. If there	It is transposed as AMC1 ATS.TR.205(c).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	are other aerodromes within a control zone, traffic at all aerodromes within such a zone shall be coordinated so that traffic circuits do not conflict.	
7.1.1.2	*Note.— Provisions for the use of an ATS surveillance system in the aerodrome control service are contained in Chapter 8, Section 8.10.*	Not transposed.
7.1.1.3	The functions of an aerodrome control tower may be performed by different control or working positions, such as: a) aerodrome controller, normally responsible for operations on the runway and aircraft flying within the area of responsibility of the aerodrome control tower; b) ground controller, normally responsible for traffic on the manoeuvring area with the exception of runways; c) clearance delivery position, normally responsible for delivery of start-up and ATC clearances to departing IFR flights.	It is transposed as GM1 ATS.TR.205(c).
7.1.1.4	Where parallel or near-parallel runways are used for simultaneous operations, individual aerodrome controllers should be responsible for operations on each of the runways.	It is transposed as GM1 ATS.TR.205(c).
7.1.2.1	Aerodrome control towers are responsible for alerting the rescue and fire fighting services whenever: a) an aircraft accident has occurred on or in the vicinity of the aerodrome; or b) information is received that the safety of an aircraft which is or will come under the jurisdiction of the aerodrome control tower may have or has been impaired; or c) requested by the flight crew; or d) when otherwise deemed necessary or desirable.	It is transposed as AMC1 ATS.TR.400(d).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.1.2.2	Procedures concerning the alerting of the rescue and fire fighting services shall be contained in local instructions. Such instructions shall specify the type of information to be provided to the rescue and fire fighting services, including type of aircraft and type of emergency and, when available, number of persons on board, and any dangerous goods carried on the aircraft.	The first sentence is considered transposed as ATS IR in ATS.TR.4001 by introducing 'in accordance with local instructions' in point (d). The second sentence is transposed as AMC2 ATS.TR.400(d).
7.1.2.3	Aircraft which fail to report after having been transferred to an aerodrome control tower, or, having once reported, cease radio contact and in either case fail to land five minutes after the expected landing time, shall be reported to the approach control unit, ACC or flight information centre, or to the rescue coordination centre or rescue sub-centre, in accordance with local instructions.	It is transposed as GM1 ATS.TR.405(a)(2)(ii). GM1 ATS.TR.405(a)(2)(iii) indicates the actions for the AFIS unit, in a similar, but not identical, manner as for aerodrome control towers.
7.1.3	Aerodrome control towers shall immediately report in accordance with local instructions any failure or irregularity of operation in any equipment, light or other device established at an aerodrome for the guidance of aerodrome traffic and flight crews or required for the provision of air traffic control service.	Not transposed. The principle is covered by ATS.TR.1065.
7.2.1	SELECTION OF RUNWAY IN USE	
7.2.1	The term "runway-in-use" shall be used to indicate the runway or runways that, at a particular time, are considered by the aerodrome control tower to be the most suitable for use by the types of aircraft expected to land or take off at the aerodrome.	It is transposed in Annex I as a definition, as follows: **'Runway-in-use' is the runway or runways that, at a particular time, are considered by the aerodrome control tower to be the most suitable for use by the types of aircraft expected to land or take off at the aerodrome.**
7.2.1	*Note.— Separate or multiple runways may be designated runway-in-use for arriving aircraft and departing aircraft.*	It is transposed in Annex I as within the definition of 'Runway-in-use', as follows: **Separate or multiple runways may be designated runway-in-use for arriving aircraft and departing aircraft.**

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.2.2	Normally, an aircraft will land and take off into wind unless safety, the runway configuration, meteorological conditions and available instrument approach procedures or air traffic conditions determine that a different direction is preferable. In selecting the runway-in-use, however, the unit providing aerodrome control service shall take into consideration, besides surface wind speed and direction, other relevant factors such as the aerodrome traffic circuits, the length of runways, and the approach and landing aids available.	The first sentence is partly transposed as GM1 ATS.TR.260. The second sentence is transposed as ATS IR ATS.TR.260.
7.2.3	A runway for take-off or landing, appropriate to the operation, may be nominated for noise abatement purposes, the objective being to utilize whenever possible those runways that permit aeroplanes to avoid noise-sensitive areas during the initial departure and final approach phases of flight.	Not transposed.
7.2.4	Runways should not be selected for noise abatement purposes for landing operations unless they are equipped with suitable glide path guidance, e.g. ILS, or a visual approach slope indicator system for operations in visual meteorological conditions.	It is transposed as AMC1 ATS.TR.260(g).
7.2.5	A pilot-in-command, prompted by safety concerns, can refuse a runway offered for noise-preferential reasons.	Not transposed.
7.2.6	Noise abatement shall not be a determining factor in runway nomination under the following circumstances: a) if the runway surface conditions are adversely affected (e.g. by snow, slush, ice, water, mud, rubber, oil or other substances); b) for landing in conditions: 1) when the ceiling is lower than 150 m (500 ft) above aerodrome elevation, or the visibility is less than 1 900 m; or 2) when the approach requires use to be made of vertical minima greater than 100 m (300 ft) above aerodrome elevation and:	It is transposed as AMC1 ATS.TR.260(g).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	i) the ceiling is lower than 240 m (800 ft) above aerodrome elevation; or ii) the visibility is less than 3 000 m; c) for take-off when the visibility is less than 1 900 m; d) when wind shear has been reported or forecast or when thunderstorms are expected to affect the approach or departure; and e) when the crosswind component, including gusts, exceeds 28 km/h (15 kt), or the tailwind component, including gusts, exceeds 9 km/h (5 kt).	
7.3	For aircraft being provided with aerodrome control service, the initial call shall contain: a) designation of the station being called; b) call sign and, for aircraft in the heavy wake turbulence category, the word "Heavy"; c) position; and d) additional elements, as required by the appropriate ATS authority.	Not transposed. Transposed as SERA.14065(c).
7.3	*Note.— See also Chapter 4, 4.11.3.1, for aircraft in the air, making the first call to the aerodrome tower.*	Not transposed.
7.4	INFORMATION TO AIRCRAFT BY AERODROME CONTROL TOWERS	
7.4.1	*Note.— See Chapter 11, 11.4.3, regarding flight information messages.*	Not transposed.
7.4.1.1	START UP TIME PROCEDURES	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.4.1.1.1	When so requested by the pilot prior to engine start, an expected take-off time should be given, unless engine start-up time procedures are employed.	It is transposed as AMC11 ATS.TR.210(a)(3).
7.4.1.1.2	Start-up time procedures should be implemented where necessary to avoid congestion and excessive delays on the manoeuvring area or when warranted by ATFM regulations. Start-up time procedures should be contained in local instructions, and should specify the criteria and conditions for determining when and how start-up times shall be calculated and issued to departing flights.	It is transposed as AMC11 ATS.TR.210(a)(3).
7.4.1.1.3	When an aircraft is subject to ATFM regulations, it should be advised to start up in accordance with its allocated slot time.	Not transposed as already covered by Article 6.6 of Regulation (EU) No 255/2010.
7.4.1.1.4	When the delay for a departing aircraft is anticipated to be less than a time period specified by the appropriate ATS authority, an aircraft should be cleared to start up at its own discretion.	Not transposed.
7.4.1.1.5	When the delay for a departing aircraft is anticipated to exceed a time period specified by the appropriate ATS authority, the aerodrome control tower should issue an expected start-up time to an aircraft requesting start-up.	Not transposed.
7.4.1.1.6	A start-up clearance shall only be withheld under circumstances or conditions specified by the appropriate ATS authority.	It is transposed as AMC11 ATS.TR.210(a)(3).
7.4.1.1.7	If a start-up clearance is withheld, the flight crew shall be advised of the reason.	It is transposed as AMC11 ATS.TR.210(a)(3).
7.4.1.2.	AERODROME AND METEOROLOGICAL INFORMATION	
7.4.1.2.1	Prior to taxiing for take-off, aircraft shall be advised of the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:	It is transposed as AMC12 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	a) the runway to be used; b) the surface wind direction and speed, including significant variations therefrom; c) the QNH altimeter setting and, either on a regular basis in accordance with local arrangements or if so requested by the aircraft, the QFE altimeter setting; d) the air temperature for the runway to be used, in the case of turbine-engined aircraft; e) the visibility representative of the direction of take-off and initial climb, if less than 10 km, or, when applicable, the RVR value(s) for the runway to be used; f) the correct time.	
7.4.1.2.1	*Note.— The meteorological information listed above is to follow the criteria used for meteorological local routine and special reports, in accordance with Chapter 11, 11.4.3.2.2 to 11.4.3.2.3.*	Not transposed.
7.4.1.2.2	Prior to take-off aircraft shall be advised of: a) any significant changes in the surface wind direction and speed, the air temperature, and the visibility or RVR value(s) given in accordance with 7.4.1.2.1; b) significant meteorological conditions in the take-off and climb-out area, except when it is known that the information has already been received by the aircraft.	It is transposed as AMC12 ATS.TR.210(a)(3).
7.4.1.2.2	*Note.— Significant meteorological conditions in this context include the occurrence or expected occurrence of cumulonimbus or thunderstorm, moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, severe mountain waves, sandstorm, duststorm, blowing snow, tornado or waterspout in the take-off and climb-out area.*	It is transposed as GM1 to AMC12 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.4.1.2.3	Prior to entering the traffic circuit or commencing its approach to land, an aircraft shall be provided with the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received: a) the runway to be used; b) the surface wind direction and speed, including significant variations therefrom; c) the QNH altimeter setting and, either on a regular basis in accordance with local arrangements or if so requested by the aircraft, the QFE altimeter setting.	It is transposed as AMC12 ATS.TR.210(a)(3).
7.4.1.2.3	*Note.— The meteorological information listed above is to follow the criteria used for meteorological local routine and special reports, in accordance with Chapter 11, 11.4.3.2.2 to 11.4.3.2.3.*	Not transposed.
7.4.1.3	ESSENTIAL LOCAL TRAFFIC INFORMATION	
7.4.1.3.1	Information on essential local traffic shall be issued in a timely manner, either directly or through the unit providing approach control service when, in the judgement of the aerodrome controller, such information is necessary in the interests of safety, or when requested by aircraft.	It is transposed as AMC1 ATS.TR.250(b).
7.4.1.3.2	Essential local traffic shall be considered to consist of any aircraft, vehicle or personnel on or near the manoeuvring area, or traffic operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned.	The text is almost identical to Note 1 to Chapter 6.2.1, explaining what is meant by 'vicinity of the aerodrome', which is transposed as GM to ATS.TR.250(b).
7.4.1.3.3	Essential local traffic shall be described so as to be easily identified.	It is transposed as AMC1 ATS.TR.250(b).
7.4.1.4.1	RUNWAY INCURSION OR OBSTRUCTED RUNWAY In the event the aerodrome controller, after a take-off clearance or a landing	It is transposed as AMC16 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	clearance has been issued, becomes aware of a runway incursion or the imminent occurrence thereof, or the existence of any obstruction on or in close proximity to the runway likely to impair the safety of an aircraft taking off or landing, appropriate action shall be taken as follows: a) cancel the take-off clearance for a departing aircraft; b) instruct a landing aircraft to execute a go-around or missed approach; c) in all cases inform the aircraft of the runway incursion or obstruction and its location in relation to the runway.	
7.4.1.4.1	*Note.— Animals and flocks of birds may constitute an obstruction with regard to runway operations. In addition, an aborted take-off or a go-around executed after touchdown may expose the aeroplane to the risk of overrunning the runway. Moreover, a low altitude missed approach may expose the aeroplane to the risk of a tail strike. Pilots may, therefore, have to exercise their judgement in accordance with Annex 2, 2.4, concerning the authority of the pilot-in-command of an aircraft.*	It is transposed as GM1 AMC16 ATS.TR.210(a)(3).
7.4.1.4.2	Pilots and air traffic controllers shall report any occurrence involving an obstruction on the runway or a runway incursion.	Not transposed.
7.4.1.4.2	*Note 1.— Information regarding runway incursions' reporting forms together with instructions for their completion are contained in the* Manual on the Prevention of Runway Incursions *(Doc 9870). Attention is drawn to the guidance for analysis, data collection and sharing of data related to runway incursions/incidents (see Chapter 5 of Doc 9870).*	Not transposed.
7.4.1.4.2	*Note 2.— The provisions in 7.4.1.4.2 have the objective of supporting the State's safety programme and safety management system (SMS).*	Not transposed.
7.4.1.5	UNCERTAINTY OF POSITION ON THE MANOEUVRING AREA	

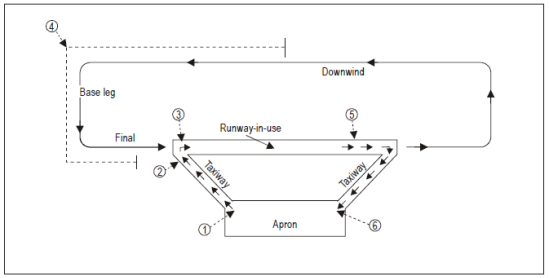
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.4.1.5.1	Except as provided for in 7.4.1.5.2, a pilot in doubt as to the position of the aircraft with respect to the manoeuvring area shall immediately: a) stop the aircraft; and b) simultaneously notify the appropriate ATS unit of the circumstances (including the last known position).	Not transposed. It is to be considered for transposition by SERA.
7.4.1.5.2	In those situations where a pilot is in doubt as to the position of the aircraft with respect to the manoeuvring area, but recognizes that the aircraft is on a runway, the pilot shall immediately: a) notify the appropriate ATS unit of the circumstances (including the last known position); b) if able to locate a nearby suitable taxiway, vacate the runway as expeditiously as possible, unless otherwise instructed by the ATS unit; and then, c) stop the aircraft.	Not transposed. It is to be considered for transposition by SERA.
7.4.1.5.3	A vehicle driver in doubt as to the position of the vehicle with respect to the manoeuvring area shall immediately: a) notify the appropriate ATS unit of the circumstances (including the last known position); b) simultaneously, unless otherwise instructed by the ATS unit, vacate the landing area, taxiway, or other part of the manoeuvring area, to a safe distance as expeditiously as possible; and then, c) stop the vehicle.	Not transposed. It is to be considered for transposition by SERA and by ADR.
7.4.1.5.4	In the event the aerodrome controller becomes aware of an aircraft or vehicle that is lost or uncertain of its position on the manoeuvring area, appropriate action shall be taken immediately to safeguard operations and assist the aircraft or vehicle concerned to determine its position.	It is transposed as AMC2 ATS.TR.240(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.4.1.6	WAKE TURBULENCE AND JET BLAST HAZARDS	
7.4.1.6.1	Aerodrome controllers shall, when applicable, apply the wake turbulence separation minima specified in Chapter 5, Section 5.8. Whenever the responsibility for wake turbulence avoidance rests with the pilot-in-command, aerodrome controllers shall, to the extent practicable, advise aircraft of the expected occurrence of hazards caused by turbulent wake.	Not transposed, as the principle is covered by ATS.TR.220.
7.4.1.6.1	*Note.— Occurrence of turbulent wake hazards cannot be accurately predicted and aerodrome controllers cannot assume responsibility for the issuance of advice on such hazards at all times, nor for its accuracy. Information on hazards due to wake vortices is contained in the* Air Traffic Services Planning Manual *(Doc 9426), Part II, Section 5. Wake turbulence categories of aircraft are specified in Chapter 4, 4.9.1.*	Not transposed.
7.4.1.6.2	In issuing clearances or instructions, air traffic controllers should take into account the hazards caused by jet blast and propeller slipstream to taxiing aircraft, to aircraft taking off or landing, particularly when intersecting runways are being used, and to vehicles and personnel operating on the aerodrome.	It is transposed as GM5 ATS.TR.210(a)(3).
7.4.1.6.2	*Note.— Jet blast and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area.*	It is transposed as GM5 ATS.TR.210(a)(3).
7.4.1.7	ABNORMAL AIRCRAFT CONFIGURATION AND CONDITION	
7.4.1.7.1	Whenever an abnormal configuration or condition of an aircraft, including conditions such as landing gear not extended or only partly extended, or unusual smoke emissions from any part of the aircraft, is observed by or reported to the aerodrome controller, the aircraft concerned shall be advised without delay.	A new element (point (a)(7)) has been added to the list of elements of information to be provided by FIS in ATS.TR.305(a) to include information on abnormal aircraft configuration and condition. It is transposed as AMC1 ATS.TR.305(a)(7).

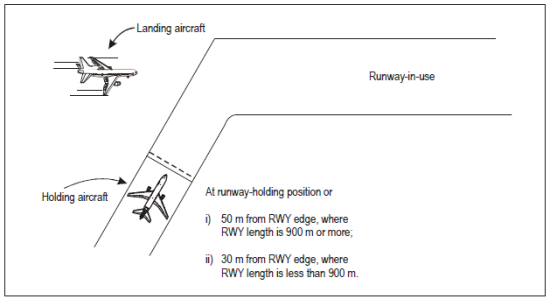
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.4.1.7.2	When requested by the flight crew of a departing aircraft suspecting damage to the aircraft, the departure runway used shall be inspected without delay and the flight crew advised in the most expeditious manner as to whether any aircraft debris or bird or animal remains have been found or not.	It is transposed as AMC1 ATS.TR.305(a)(7).
7.5	ESSENTIAL INFORMATION ON AERODROME CONDITIONS	
7.5	*Note.— See Chapter 11, 11.4.3.4, regarding messages containing information on aerodrome conditions.*	Not transposed.
7.5.1	Essential information on aerodrome conditions is information necessary to safety in the operation of aircraft, which pertains to the movement area or any facilities usually associated therewith. For example, construction work on a taxi strip not connected to the runway-in-use would not be essential information to any aircraft except one that might be taxied in the vicinity of the construction work. As another example, if all traffic must be confined to runways, that fact should be considered as essential aerodrome information to any aircraft not familiar with the aerodrome.	It is transposed as GM1 to AMC1 ATS.TR.305(a)(5).
7.5.2	Essential information on aerodrome conditions shall include information relating to the following: a) construction or maintenance work on, or immediately adjacent to the movement area; b) rough or broken surfaces on a runway, a taxiway or an apron, whether marked or not; c) water, snow, slush, ice or frost on a runway, a taxiway or an apron; d) water on a runway, a taxiway or an apron anti-icing or de-icing liquid chemicals or other contaminant on a runway, taxiway or apron; e) snow banks or drifts adjacent to a runway, a taxiway or an apron;	It is transposed as GM1 to AMC1 ATS.TR.305(a)(5). Modifications (modified text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	f) other temporary hazards, including parked aircraft and birds on the ground or in the air; g) failure or irregular operation of part or all of the aerodrome lighting system; h) any other pertinent information.	
7.5.2	*Note.— Up-to-date information on the conditions on aprons may not always be available to the aerodrome control tower. The responsibility of the aerodrome control tower in relation to aprons is, with respect to the provisions of 7.5.1 and* *7.5.2, limited to the transmission to aircraft of the information which is provided to it by the authority responsible for the aprons.*	It is transposed as GM1 to AMC1 ATS.TR.305(a)(5).
7.5.3	Essential information on aerodrome conditions shall be given to every aircraft, except when it is known that the aircraft already has received all or part of the information from other sources. The information shall be given in sufficient time for the aircraft to make proper use of it, and the hazards shall be identified as distinctly as possible.	It is transposed as AMC1 ATS.TR.305(a)(5).
7.5.3	*Note.— "Other sources" include NOTAM, ATIS broadcasts, and the display of suitable signals*.	It is transposed as AMC1 ATS.TR.305(a)(5).
7.5.4	When a not previously notified condition pertaining to the safe use by aircraft of the manoeuvring area is reported to or observed by the controller, the appropriate aerodrome authority shall be informed and operations on that part of the manoeuvring area terminated until otherwise advised by the appropriate aerodrome authority.	It is transposed as AMC6 ATS.OR.110.
7.6	CONTROL OF AERODROME TRAFFIC	
7.6.1	As the view from the flight deck of an aircraft is normally restricted, the controller shall ensure that instructions and information which require the flight crew to employ visual detection, recognition and observation are phrased in a	It is transposed as GM4 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	clear, concise and complete manner.	
7.6.2	DESIGNATED POSITIONS OF AIRCRAFT IN THE AERODROME TRAFFIC AND TAXI CIRCUIT The following positions of aircraft in the traffic and taxi circuits are the positions where aircraft normally receive aerodrome control tower clearances. Aircraft should be watched closely as they approach these positions so that proper clearances may be issued without delay. Where practicable, all clearances should be issued without waiting for aircraft to initiate the call. *Position 1.* Aircraft initiates call to taxi for departing flight. Runway-in-use information and taxi clearances given *Position 2.* If there is conflicting traffic, the departing aircraft will be held at this position. Engine run-up will, when required, normally be performed here. *Position 3.* Take-off clearance is issued here, if not practicable at position 2. *Position 4.* Clearance to land is issued here as practicable. *Position 5.* Clearance to taxi to apron is issued here. *Position 6.* Parking information issued here, if necessary.	It is transposed as GM6 ATS.TR.210(a)(3).
7.6.2	*Note 1.— Arriving aircraft executing an instrument approach procedure will normally enter the traffic circuit on final except when visual manoeuvring to the landing runway is required.*	Not transposed.
7.6.2	*Note 2.— See Figure 7-1.*	Not transposed.
7.6.3	TRAFFIC ON THE MANOEUVRING AREA	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.6.3.1.1.1	Prior to issuing a taxi clearance, the controller shall determine where the aircraft concerned is parked. Taxi clearances shall contain concise instructions and adequate information so as to assist the flight crew to follow the correct taxi routes, to avoid collision with other aircraft or objects and to minimize the potential for the aircraft inadvertently entering an active runway.	It is transposed as AMC13 ATS.TR.210(a)(3).
7.6.3.1.1.2	When a taxi clearance contains a taxi limit beyond a runway, it shall contain an explicit clearance to cross or an instruction to hold short of that runway.	It is transposed as AMC13 ATS.TR.210(a)(3).
Figure 7-1	 **Figure 7-1. Designated positions of aircraft from an aerodrome control tower viewpoint (see 7.6.2)**	It is included in GM6 ATS.TR.210(a)(3).
7.6.3.1.1.3	The appropriate ATS authority should whenever practicable publish in the national AIP standard taxi routes to be used at an aerodrome. Standard taxi routes should be identified by appropriate designators and should be used in taxi clearances.	Not transposed.
7.6.3.1.1.4	Where standard taxi routes have not been published, a taxi route should, whenever possible, be described by use of taxiway and runway designators. Other relevant information, such as an aircraft to follow or give way to, shall also be provided to a taxiing aircraft.	It is transposed as GM1 to AMC13 ATS.TR.210(a)(3). AMC1 ATS.OR.110 is relevant for this GM.
7.6.3.1.2.1	For the purpose of expediting air traffic, aircraft may be permitted to taxi on the runway-in-use, provided no delay or risk to other aircraft will result. Where control of taxiing aircraft is provided by a ground controller and the control of	It is transposed as AMC14 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	runway operations by an aerodrome controller, the use of a runway by taxiing aircraft shall be coordinated with and approved by the aerodrome controller. Communication with the aircraft concerned should be transferred from the ground controller to the aerodrome controller prior to the aircraft entering the runway.	
7.6.3.1.2.2	If the control tower is unable to determine, either visually or via an ATS surveillance system that a vacating or crossing aircraft has cleared the runway, the aircraft shall be requested to report when it has vacated the runway. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.	It is transposed as AMC14 ATS.TR.210(a)(3).
7.6.3.1.3.1	USE OF RUNWAY-HOLDING POSITIONS Except as provided in 7.6.3.1.3.2 or as prescribed by the appropriate ATS authority, aircraft shall not be held closer to a runway-in-use than at a runway-holding position.	It is transposed as AMC15 ATS.TR.210(a)(3).
7.6.3.1.3.1	*Note.— Runway-holding position locations in relation to runways are specified in Annex 14, Volume I, Chapter 5.*	It is transposed as GM1 to AMC15 ATS.TR.210(a)(3) with the correct reference from the EASA ED Decisions associated with Regulation (EU) No 139/2014.
7.6.3.1.3.2	Aircraft shall not be permitted to line up and hold on the approach end of a runway-in-use whenever another aircraft is effecting a landing, until the landing aircraft has passed the point of intended holding.	It is transposed as AMC15 ATS.TR.210(a)(3).
7.6.3.1.3.2	*Note.— See Figure 7-2.*	Not transposed.
7.6.3.1.4.1	HELICOPTER TAXIING OPERATIONS When necessary for a wheeled helicopter or vertical take-off and landing (VTOL) aircraft to taxi on the surface, the following provisions are applicable.	It is transposed as GM2 to AMC13 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.6.3.1.4.1	*Note.— Ground taxiing uses less fuel than air-taxiing and minimizes air turbulence. However, under certain conditions, such as rough, soft or uneven terrain, it may become necessary to air-taxi for safety considerations. Helicopters with articulating rotors (usually designs with three or more main rotor blades) are subject to "ground resonance" and may, on rare occasions, suddenly lift off the ground to avoid severe damage or destruction.*	It is transposed as GM2 to AMC13 ATS.TR.210(a)(3).
7.6.3.1.4.2	When it is requested or necessary for a helicopter to proceed at a slow speed above the surface, normally below 37 km/h (20 kt) and in ground effect, air-taxiing may be authorized.	It is transposed as GM2 to AMC13 ATS.TR.210(a)(3).
7.6.3.1.4.2	*Note.— Air-taxiing consumes fuel at a high burn rate, and helicopter downwash turbulence (produced in ground effect) increases significantly with larger and heavier helicopters.*	Not transposed.
7.6.3.1.4.3	Instructions which require small aircraft or helicopters to taxi in close proximity to taxiing helicopters should be avoided and consideration should be given to the effect of turbulence from taxiing helicopters on arriving and departing light aircraft.	It is transposed as GM2 to AMC13 ATS.TR.210(a)(3).
Figure 7-2	 **Figure 7-2. Method of holding aircraft (see 7.6.3.1.3.2)**	It is included in AMC15 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.6.3.1.4.4	A frequency change should not be issued to single-pilot helicopters hovering or air-taxiing. Whenever possible, control instructions from the next ATS unit should be relayed as necessary until the pilot is able to change frequency.	It is transposed as GM2 to AMC13 ATS.TR.210(a)(3).
7.6.3.1.4.4	*Note.— Most light helicopters are flown by one pilot and require the constant use of both hands and feet to maintain control during low-altitude/low-level flight. Although flight control friction devices assist the pilot, changing frequency near the ground could result in inadvertent ground contact and consequent loss of control.*	It is transposed as GM2 to AMC13 ATS.TR.210(a)(3).
7.6.3.2	CONTROL OF OTHER THAN AIRCRAFT TRAFFIC	
7.6.3.2.1	The movement of pedestrians or vehicles on the manoeuvring area shall be subject to authorization by the aerodrome control tower. Persons, including drivers of all vehicles, shall be required to obtain authorization from the aerodrome control tower before entry to the manoeuvring area. Notwithstanding such an authorization, entry to a runway or runway strip or change in the operation authorized shall be subject to a further specific authorization by the aerodrome control tower.	It is transposed as AMC1 ATS.TR.240(a).
7.6.3.2.2.1	All vehicles and pedestrians shall give way to aircraft which are landing, taxiing or taking off, except that emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic. In the latter case, all movement of surface traffic should, to the extent practicable, be halted until it is determined that the progress of the emergency vehicles will not be impeded.	The first sentence is not transposed as considered covered by the transposition of Annex 11 Chapter 3.8.3 as ATS.TR.240(c). The second sentence is transposed as GM1 ATS.TR.240(c).
7.6.3.2.2.2	When an aircraft is landing or taking off, vehicles shall not be permitted to hold closer to the runway-in-use than: a) at a taxiway/runway intersection — at a runway-holding position; and	It is transposed as AMC1 ATS.TR.240(a).

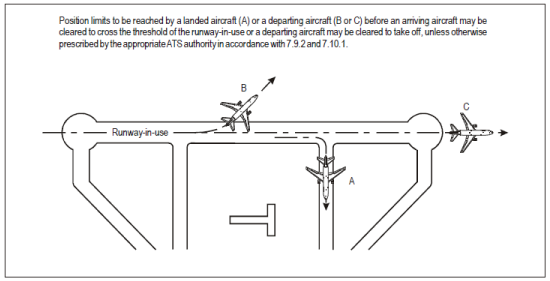
PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.	
7.6.3.2.3.1	At controlled aerodromes all vehicles employed on the manoeuvring area shall be capable of maintaining two-way radiocommunication with the aerodrome control tower, except when the vehicle is only occasionally used on the manoeuvring area and is: a) accompanied by a vehicle with the required communications capability; or b) employed in accordance with a pre-arranged plan established with the aerodrome control tower.	The requirement to equip all vehicles operating on the manoeuvring area is established in ICAO Annex 14 Chapter 9.7.5, but has not been transposed within Regulation (EU) No 139/2014. This is a requirement for aerodrome operators, and not for ATS providers. However, in absence of a similar requirement in the context of Regulation (EU) No 139/2014 and its associated Decisions, and given that Regulation (EU) No 139/2014 does not apply to all aerodromes, it is considered to have it at least as GM addressing this subject within Part-ATS. It is transposed as GM1 ATS.OR.450(a).
7.6.3.2.3.2	When communications by a system of visual signals is deemed to be adequate, or in the case of radiocommunication failure, the signals given hereunder shall have the meaning indicated therein:	It is transposed as AMC1 ATS.OR.450(a). It is to be considered for transposition by SERA.
7.6.3.2.3.2	*Light signal from aerodrome control* — *Meaning* Green flashes — Permission to cross landing area or to move onto taxiway Steady red — Stop Red flashes — Move off the landing area or taxiway and watch out for aircraft White flashes — Vacate manoeuvring area in accordance with local instructions	The values in this table are included in AMC1 ATS.OR.450(a).
7.6.3.2.3.3	In emergency conditions or if the signals in 7.6.3.2.3.2 are not observed, the signal given hereunder shall be used for runways or taxiways equipped with a lighting system and shall have the meaning indicated therein.	It is transposed as AMC1 ATS.OR.450(a). It is to be considered for transposition by SERA.
7.6.3.2.3.3	*Light signal* — *Meaning* Flashing runway or taxiway lights — Vacate the runway and observe the tower for light signal	The signals in this table are included in AMC1 ATS.OR.450(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.6.3.2.3.4	When employed in accordance with a plan prearranged with the aerodrome control tower, constructional and maintenance personnel should not normally be required to be capable of maintaining two-way radiocommunication with the aerodrome control tower.	Not transposed.
7.7	CONTROL OF TRAFFIC IN THE CIRCUIT	
7.7.1	GENERAL	
7.7.1.1	Aircraft in the traffic circuit shall be controlled to provide the separation minima outlined in 7.9.2, 7.10.1 and 7.11 and Chapter 5, Section 5.8, except that: a) aircraft in formation are exempted from the separation minima with respect to separation from other aircraft of the same flight; b) aircraft operating in different areas or different runways on aerodromes suitable for simultaneous landings or take-offs are exempted from the separation minima; c) separation minima shall not apply to aircraft operating under military necessity in accordance with Chapter 16, Section 16.1.	Not transposed, as the separation application and minima established in PANS ATM Chapters 7.9.2, 7.10.1, and 5.8 are already transposed in various AMCs to ATS.TR.210(c) and ATS.TR.220. Exemptions in bullet points a) and c) are covered by SERA, while those in bullet point b) is covered by the transposition of PANS ATM Chapter 6.7 'Parallel or near parallel operations' as AMC and GM to ATS.TR.255.
7.7.1.2	Sufficient separation shall be effected between aircraft in flight in the traffic circuit to allow the spacing of arriving and departing aircraft as outlined in 7.9.2, 7.10.1 and 7.11 and Chapter 5, Section 5.8.	Not transposed.
	When so instructed by the controller, pilots shall obtain approval prior to turning on to any of the aerodrome traffic circuit legs. When extending an aerodrome traffic circuit leg, pilots should report to ATC as soon as there is a risk that the visual contact with the runway cannot be maintained.	This provision is proposed for addition as Section 7.7.1.3 to PANS ATM with EANPG/56 – WP18 of 12/11/14. Even if it is not included in Amendment 7 established with ICAO AN-WP/9014, it is proposed by virtue of the applicability and of the consensus in the EU context. It is transposed as GM2 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.7.2	ENTRY OF TRAFFIC CIRCUIT	
7.7.2.1	The clearance to enter the traffic circuit should be issued to an aircraft whenever it is desired that the aircraft approach the landing area in accordance with current traffic circuits but traffic conditions do not yet allow a landing clearance to be issued. Depending on the circumstances and traffic conditions, an aircraft may be cleared to join at any position in the traffic circuit.	It is transposed as GM1 ATS.TR.210(a)(3).
7.7.2.1	*Note. - A controller may, inter alia, clear an aircraft to enter the traffic circuit by instructing the aircraft to continue in an upwind direction, parallel to the runway before crossing the runway axis to join the downwind leg.*	This provision is proposed for addition as Note to Section 7.7.2.1 to PANS ATM with EANPG/56 – WP18 of 12/11/14. Even if it is not included in Amendment 7 established with ICAO AN-WP/9014, it is proposed by virtue of the applicability and of the consensus in the EU context. It is transposed as GM1 ATS.TR.210(a)(3).
7.7.2.2	An arriving aircraft executing an instrument approach shall normally be cleared to land straight in unless visual manoeuvring to the landing runway is required.	It is transposed as GM1 ATS.TR.210(a)(3).
7.7.3	PRIORITY FOR LANDING	
7.7.3.1	If an aircraft enters an aerodrome traffic circuit without proper authorization, it shall be permitted to land if its actions indicate that it so desires. If circumstances warrant, aircraft which are in contact with the controller may be instructed by the controller to give way so as to remove as soon as possible the hazard introduced by such unauthorized operation. In no case shall permission to land be withheld indefinitely.	It is transposed as GM1 to AMC19 ATS.TR.210(a)(3).
7.7.3.2	In cases of emergency it may be necessary, in the interests of safety, for an aircraft to enter a traffic circuit and effect a landing without proper authorization. Controllers should recognize the possibilities of emergency action	It is transposed as GM1 to AMC19 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	and render all assistance possible.	
7.7.3.3	Priority shall be given to: a) an aircraft which anticipates being compelled to land because of factors affecting the safe operation of the aircraft (engine failure, shortage of fuel, etc.); b) hospital aircraft or aircraft carrying any sick or seriously injured persons requiring urgent medical attention; c) aircraft engaged in search and rescue operations; and d) other aircraft as may be determined by the appropriate authority.	It is transposed as AMC19 ATS.TR.210(a)(3).
7.7.3.3	*Note.— An aircraft which has encountered an emergency is handled as outlined in Chapter 15, Section 15.1.*	Not transposed.
7.8	ORDER OF PRIORITY FOR ARRIVING AND DEPARTING AIRCRAFT	
7.8	An aircraft landing or in the final stages of an approach to land shall normally have priority over an aircraft intending to depart from the same or an intersecting runway.	It is transposed as GM1 to AMC19 ATS.TR.210(a)(3).
7.9	CONTROL OF DEPARTING AIRCRAFT	
7.9.1	DEPARTURE SEQUENCE	
7.9.1	Departures shall normally be cleared in the order in which they are ready for take-off, except that deviations may be made from this order of priority to facilitate the maximum number of departures with the least average delay. Factors which should be considered in relation to the departure sequence	It is transposed as GM7 ATS.TR.210(a)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	include, *inter alia*: a) types of aircraft and their relative performance; b) routes to be followed after take-off; c) any specified minimum departure interval between take-offs; d) need to apply wake turbulence separation minima; e) aircraft which should be afforded priority; and f) aircraft subject to ATFM requirements.	
7.9.1	*Note 1.— See also Chapter 6, 6.3.3.*	Not transposed.
7.9.1	*Note 2.— For aircraft subject to ATFM requirements, it is the responsibility of the pilot and the operator to ensure that the aircraft is ready to taxi in time to meet any required departure time, bearing in mind that once a departure sequence is established on the taxiway system, it can be difficult, and sometimes impossible, to change the order.*	It is transposed as GM8 ATS.TR.210(a)(3).
7.9.2	SEPARATION OF DEPARTING AIRCRAFT	
7.9.2	Except as provided in 7.11 and Chapter 5, Section 5.8, a departing aircraft will not normally be permitted to commence take-off until the preceding departing aircraft has crossed the end of the runway-in-use or has started a turn or until all preceding landing aircraft are clear of the runway-in-use.	It is transposed as AMC7 ATS.TR.210(c)(2)(i).
7.9.2	*Note 1.— See Figure 7-3.*	Not transposed.
7.9.2	*Note 2.— Wake turbulence categories and time-based wake turbulence longitudinal separation minima are contained in Chapter 4, Section 4.9 and*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	Chapter 5, Section 5.8, respectively. Distance-based wake turbulence separation minima are contained in Chapter 8, Section 8.7.	
7.9.2	*Note 3.— See 7.6.3.1.2.2.*	
Figure 7-3	 **Figure 7-3. Separation between departing and arriving aircraft (see 7.9.2 and 7.10.1)**	It is included as AMC7 ATS.TR.210(c)(2)(i).
7.9.3.1	TAKE OFF CLEARANCE Take-off clearance may be issued to an aircraft when there is reasonable assurance that the separation in 7.9.2, or prescribed in accordance with 7.11, will exist when the aircraft commences take-off.	It is transposed as AMC17 ATS.TR.210(a)(3).
7.9.3.2	When an ATC clearance is required prior to take-off, the take-off clearance shall not be issued until the ATC clearance has been transmitted to and acknowledged by the aircraft concerned. The ATC clearance shall be forwarded to the aerodrome control tower with the least possible delay after receipt of a request made by the tower or prior to such request if practicable.	It is transposed as AMC17 ATS.TR.210(a)(3).
7.9.3.3	The expression TAKE-OFF shall only be used in radiotelephony when an aircraft is cleared for take-off or when cancelling a take-off clearance. *Note. — The expression TORA, pronounced TOR-AH, may be used to indicate*	Not transposed. It is to be considered for transposition by SERA. Modifications (modified text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	take-off run available.	
7.9.3.4	Subject to 7.9.3.2, the take-off clearance shall be issued when the aircraft is ready for take-off and at or approaching the departure runway, and the traffic situation permits. To reduce the potential for misunderstanding, the take-off clearance shall include the designator of the departure runway.	It is transposed as AMC17 ATS.TR.210(a)(3). Amendment in the paragraph numbering is introduced with ICAO AN-WP/9014.
7.9.3.5	In the interest of expediting traffic, a clearance for immediate take-off may be issued to an aircraft before it enters the runway. On acceptance of such clearance the aircraft shall taxi out to the runway and take off in one continuous movement.	Amendment in the paragraph numbering is introduced with ICAO AN-WP/9014. The first sentence is transposed as AMC17 ATS.TR.210(a)(3). The second sentence is not transposed as it addresses the flight crew and not the ATS unit.
7.10	CONTROL OF ARRIVING AIRCRAFT	
7.10.1	SEPARATION OF LANDING AIRCRAFT AND PRECEDING LANDING AND DEPARTING AIRCRAFT USING THE SAME RUNWAY Except as provided in 7.11 and Chapter 5, Section 5.8, a landing aircraft will not normally be permitted to cross the runway threshold on its final approach until the preceding departing aircraft has crossed the end of the runway-in-use, or has started a turn, or until all preceding landing aircraft are clear of the runway-in-use.	It is transposed as AMC8 ATS.TR.210(c)(2)(i).
7.10.1	*Note 1.— See Figure 7-3.*	Not transposed.
7.10.1	*Note 2.— Wake turbulence categories of aircraft and longitudinal separation minima are contained in Chapter 4, Section 4.9 and Chapter 5, Section 5.8, respectively.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.10.1	*Note 3.— See 7.6.3.1.2.2.*	Not transposed.
7.10.2	CLEARANCE TO LAND An aircraft may be cleared to land when there is reasonable assurance that the separation in 7.10.1, or prescribed in accordance with 7.11 will exist when the aircraft crosses the runway threshold, provided that a clearance to land shall not be issued until a preceding landing aircraft has crossed the runway threshold. To reduce the potential for misunderstanding, the landing clearance shall include the designator of the landing runway.	It is transposed as AMC18 ATS.TR.210(a)(3).
7.10.3.1	LANDING AND ROLL OUT MANOEUVRES When necessary or desirable in order to expedite traffic, a landing aircraft may be requested to: a) hold short of an intersecting runway after landing; b) land beyond the touchdown zone of the runway; c) vacate the runway at a specified exit taxiway; d) expedite vacating the runway.	It is transposed as GM3 ATS.TR.210(a)(3).
7.10.3.2	In requesting a landing aircraft to perform a specific landing and/or roll-out manoeuvre, the type of aircraft, runway length, location of exit taxiways, reported braking action on runway and taxiway, and prevailing meteorological conditions shall be considered. A HEAVY aircraft shall not be requested to land beyond the touchdown zone of a runway.	It is transposed as GM3 ATS.TR.210(a)(3).
7.10.3.3	If the pilot-in-command considers that he or she is unable to comply with the requested operation, the controller shall be advised without delay.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.10.3.4	When necessary or desirable, e.g. due to low visibility conditions, a landing or a taxiing aircraft may be instructed to report when a runway has been vacated. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.	It is transposed as GM3 ATS.TR.210(a)(3).
7.11	REDUCED RUNWAY SEPARATION MINIMA BETWEEN AIRCRAFT USING THE SAME RUNWAY	
7.11.1	Provided that an appropriate, documented safety assessment has shown that an acceptable level of safety can be met, lower minima than those in 7.9.2 and 7.10.1 may be prescribed by the appropriate ATS authority, after consultation with the operators. The safety assessment shall be carried out for each runway for which the reduced minima are intended, taking into account factors such as: a) runway length; b) aerodrome layout; and c) types/categories of aircraft involved.	It is transposed as AMC9 ATS.TR.210(c)(2)(i).
7.11.2	All applicable procedures related to the application of reduced runway separation minima shall be published in the Aeronautical Information Publication as well as in local air traffic control instructions. Controllers shall be provided with appropriate and adequate training in the use of the procedures.	The first sentence is transposed as GM1 ATS.OR.125(a). The second sentence is not transposed, as it is implicitly covered in the training requirements set by Regulation (EU) 2015/340 and the associated EASA ED Decision 2015/010/R.
7.11.3	Reduced runway separation minima shall only be applied during the hours of daylight from 30 minutes after local sunrise to 30 minutes before local sunset.	It is transposed as AMC9 ATS.TR.210(c)(2)(i).
7.11.4	For the purpose of reduced runway separation, aircraft shall be classified as follows: a) *Category 1 aircraft:* single-engine propeller aircraft with a maximum certificated take-off mass of 2 000 kg or less; b) *Category 2 aircraft:* single-engine propeller aircraft with a maximum certificated take-off mass of more than 2 000 kg but less than 7 000 kg; and	It is transposed as AMC9 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	twin-engine propeller aircraft with a maximum certificated take-off mass of less than 7 000 kg; c) *Category 3 aircraft:* all other aircraft.	
7.11.5	Reduced runway separation minima shall not apply between a departing aircraft and a preceding landing aircraft.	It is transposed as AMC9 ATS.TR.210(c)(2)(i).
7.11.6	Reduced runway separation minima shall be subject to the following conditions: a) wake turbulence separation minima shall be applied; b) visibility shall be at least 5 km and ceiling shall not be lower than 300 m (1 000 ft); c) tailwind component shall not exceed 5 kt; d) there shall be available means, such as suitable landmarks, to assist the controller in assessing the distances between aircraft. A surface surveillance system that provides the air traffic controller with position information on aircraft may be utilized, provided that approval for operational use of such equipment includes a safety assessment to ensure that all requisite operational and performance requirements are met; e) minimum separation continues to exist between two departing aircraft immediately after take-off of the second aircraft; f) traffic information shall be provided to the flight crew of the succeeding aircraft concerned; and g) the braking action shall not be adversely affected by runway contaminants such as ice, slush, snow and water.	It is transposed as AMC9 ATS.TR.210(c)(2)(i).
7.11.7	Reduced runway separation minima which may be applied at an aerodrome shall be determined for each separate runway. The separation to be applied shall in no case be less than the following minima: a) landing aircraft:	It is transposed as AMC9 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	1) a succeeding landing Category 1 aircraft may cross the runway threshold when the preceding aircraft is a Category 1 or 2 aircraft which either: i) has landed and has passed a point at least 600 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or ii) is airborne and has passed a point at least 600 m from the threshold of the runway; 2) a succeeding landing Category 2 aircraft may cross the runway threshold when the preceding aircraft is a Category 1 or 2 aircraft which either: i) has landed and has passed a point at least 1 500 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or ii) is airborne and has passed a point at least 1 500 m from the threshold of the runway; 3) a succeeding landing aircraft may cross the runway threshold when a preceding Category 3 aircraft: i) has landed and has passed a point at least 2 400 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or ii) is airborne and has passed a point at least 2 400 m from the threshold of the runway;	
7.11.7	b) departing aircraft: 1) a Category 1 aircraft may be cleared for take-off when the preceding departing aircraft is a Category 1 or 2 aircraft which is airborne and has passed a point at least 600 m from the position of the succeeding aircraft; 2) a Category 2 aircraft may be cleared for take-off when the preceding departing aircraft is a Category 1 or 2 aircraft which is airborne and has passed a point at least 1 500 m from the position of the succeeding aircraft; and 3) an aircraft may be cleared for take-off when a preceding departing Category 3 aircraft is airborne and has passed a point at least 2 400 m from the position of the succeeding aircraft.	It is transposed as AMC9 ATS.TR.210(c)(2)(i).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
7.11.7.1	Consideration should be given to increased separation between high performance single-engine aircraft and preceding Category 1 or 2 aircraft.	Not transposed.
7.12	PROCEDURES FOR LOW VISIBILITY OPERATIONS	
7.12.1	CONTROL OF AERODROME SURFACE TRAFFIC IN CONDITIONS OF LOW VISIBILITY	
7.12.1	*Note.— These procedures apply whenever conditions are such that all or part of the manoeuvring area cannot be visually monitored from the control tower. Additional requirements which apply when category II/III approaches are* *being conducted are specified in Section 7.12.2.*	
7.12.1.1	When there is a requirement for traffic to operate on the manoeuvring area in conditions of visibility which prevent the aerodrome control tower from applying visual separation between aircraft, and between aircraft and vehicles, the following shall apply:	It is transposed as ATS IR ATS.TR.265(a).
7.12.1.1.1	At the intersection of taxiways, an aircraft or vehicle on a taxiway shall not be permitted to hold closer to the other taxiway than the holding position limit defined by a clearance bar, stop bar or taxiway intersection marking according to the specifications in Annex 14, Volume I, Chapter 5.	It is transposed as ATS IR ATS.TR.265(a).
7.12.1.1.2	The longitudinal separation on taxiways shall be as specified for each particular aerodrome by the appropriate ATS authority. This separation shall take into account the characteristics of the aids available for surveillance and control of ground traffic, the complexity of the aerodrome layout and the characteristics of the aircraft using the aerodrome.	It is transposed as ATS IR ATS.TR.265(a).
7.12.1.1.2	*Note.— The* Manual of Surface Movement Guidance and Control Systems (SMGCS) *(Doc 9476) provides guidance on surface movement guidance and*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	control components and procedures for low visibility operations.	
7.12.2	PROCEDURES FOR CONTROL OF AERODROME TRAFFIC WHEN CATEGORY II/III APPROACHES ARE IN USE	
7.12.2.1	The appropriate ATS authority shall establish provisions applicable to the start and continuation of precision approach category II/III operations as well as departure operations in RVR conditions less than a value of 550 m.	It is transposed as ATS IR ATS.TR.265(b).
7.12.3	Low visibility operations shall be initiated by or through the aerodrome control tower.	It transposed as AMC1 ATS.TR.265(b).
7.12.4	The aerodrome control tower shall inform the approach control unit concerned when procedures for precision approach category II/III and low visibility operations will be applied and also when such procedures are no longer in force.	It transposed as AMC1 ATS.TR.265(b).
7.12.5	Provisions regarding low visibility operations should specify: a) the RVR value(s) at which the low visibility operations procedures shall be implemented; b) the minimum ILS/MLS equipment requirements for category II/III operations; c) other facilities and aids required for category II/III operations, including aeronautical ground lights, which shall be monitored for normal operation; d) the criteria for and the circumstances under which downgrading of the ILS/MLS equipment from category II/III operations capability shall be made; e) the requirement to report any relevant equipment failure and degradation, without delay, to the flight crews concerned, the approach control unit, and any other appropriate organization; f) special procedures for the control of traffic on the manoeuvring area,	It transposed as AMC1 ATS.TR.265(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	including: 1) the runway-holding positions to be used; 2) the minimum distance between an arriving and a departing aircraft to ensure protection of the sensitive and critical areas; 3) procedures to verify that aircraft and vehicles have vacated the runway; 4) procedures applicable to the separation of aircraft and vehicles; g) applicable spacing between successive approaching aircraft; h) action(s) to be taken in the event low visibility operations need to be discontinued, e.g. due to equipment failures; and i) any other relevant procedures or requirements.	
7.12.5	*Note.— Further information regarding the requirements for low visibility operations can be found in the* Air Traffic Services Planning Manual *(Doc 9426) and the* All-Weather Operations Manual *(Doc 9365).*	Not transposed.
7.12.6	The aerodrome control tower shall, prior to a period of application of low visibility procedures, establish a record of vehicles and persons currently on the manoeuvring area and maintain this record during the period of application of these procedures to assist in assuring the safety of operations on that area.	It transposed as AMC1 ATS.TR.265(b).
7.12.6	*Note.— See also 7.6.3.2.*	Not transposed.
7.13	SUSPENSION OF VISUAL FLIGHT RULES OPERATIONS	
7.13.1	Any or all VFR operations on and in the vicinity of an aerodrome may be suspended by any of the following units, persons or authorities whenever safety requires such action:	It is transposed as ATS IR ATS.TR.150(a).

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	a) the approach control unit or the appropriate ACC; b) the aerodrome control tower; c) the appropriate ATS authority.	
7.13.2	All such suspensions of VFR operations shall be accomplished through or notified to the aerodrome control tower.	It is transposed as GM1 ATS.TR.150.
7.13.3	The following procedures shall be observed by the aerodrome control tower whenever VFR operations are suspended: a) hold all VFR departures; b) recall all local flights operating under VFR or obtain approval for special VFR operations; c) notify the approach control unit or ACC as appropriate of the action taken; d) notify all operators, or their designated representatives, of the reason for taking such action, if necessary or requested.	It is transposed as ATS IR ATS.TR.150(a).
7.14	AUTHORISATION OF SPECIAL VFR FLIGHTS	
7.14.1	When traffic conditions permit, special VFR flights may be authorized subject to the approval of the unit providing approach control service and the provisions of 7.14.1.3.	It is transposed as ATS IR ATS.TR.270(a). Transposed also as SERA.5010.
7.14.1.1	Requests for such authorization shall be handled individually.	It is transposed as ATS IR in ATS.TR.7045(c). Transposed also as SERA.5010.

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7.14.1.2	Separation shall be effected between all IFR flights and special VFR flights in accordance with separation minima in Chapters 5 and 6 and, when so prescribed by the appropriate ATS authority, between all special VFR flights in accordance with separation minima prescribed by that authority.	The principle is transposed in ATS.TR.210(b)(4) and (b)(5).
7.14.1.3	When the ground visibility is not less than 1 500 m, special VFR flights may be authorized to: enter a control zone for the purpose of landing, take off and depart from a control zone, cross a control zone or operate locally within a control zone.	It is transposed as ATS IR in ATS.TR.270(b). Transposed also as SERA.5010.
7.14.1.3	*Note.— Requirements for two-way communications between controlled flights and the appropriate air traffic control unit are contained in Annex 2, 3.6.5.*	Not transposed.
7.15	AERONAUTICAL GROUND LIGHTS	
7.15.1	*Note.— The procedures in this Section apply to all aerodromes, whether or not aerodrome control service is provided. In addition, the procedures in 7.15.2.1 apply to all aeronautical ground lights, whether or not they are on or in* *the vicinity of an aerodrome.*	An ATS IR stipulating the responsibilities for ATS providers with regard to the operation of aeronautical ground lights is established in ATS.TR.155, as follows: **The ATS provider shall establish procedures for the operation of aeronautical ground lights, whether or not they are on or in the vicinity of an aerodrome.**
7.15.2.1	All aeronautical ground lights shall be operated, except as provided in 7.15.2.2 and 7.15.3: a) continuously during the hours of darkness or during the time the centre of the sun's disc is more than 6 degrees below the horizon, whichever requires the longer period of operation, unless otherwise provided hereafter or otherwise required for the control of air traffic; b) at any other time when their use, based on meteorological conditions, is	It is transposed as AMC1 ATS.TR.155.

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	considered desirable for the safety of air traffic.	
7.15.2.2	Lights on and in the vicinity of aerodromes that are not intended for en-route navigation purposes may be turned off, subject to further provisions hereafter, if no likelihood of either regular or emergency operation exists, provided that they can be again brought into operation at least one hour before the expected arrival of an aircraft.	It is transposed as AMC1 ATS.TR.155.
7.15.2.3	At aerodromes equipped with lights of variable intensity a table of intensity settings, based on conditions of visibility and ambient light, should be provided for the guidance of air traffic controllers in effecting adjustment of these lights to suit the prevailing conditions. When so requested by an aircraft, further adjustment of the intensity shall be made whenever possible.	It is transposed as AMC1 ATS.TR.155.
7.15.3	*Note.— Approach lighting includes such lights as simple approach lighting systems, precision approach lighting systems, visual approach slope indicator systems, circling guidance lights, approach light beacons and runway alignment indicators.*	It is transposed as GM1 to AMC1 ATS.TR.155.
7.15.3.1	In addition to 7.15.2.1 approach lighting shall also be operated: a) by day when requested by an approaching aircraft; b) when the associated runway lighting is operated.	It is transposed as AMC1 ATS.TR.155.
7.15.3.2	The lights of a visual approach slope indicator system shall be operated during the hours of daylight as well as of darkness and irrespective of the visibility conditions when the associated runway is being used.	It is transposed as AMC1 ATS.TR.155.
7.15.4	*Note.— Runway lighting includes such lights as edge, threshold, centre line, end, touchdown zone and wing bar lights.*	It is transposed as GM1 to AMC1 ATS.TR.155.

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7.15.4.1	Runway lighting shall not be operated if that runway is not in use for landing, take-off or taxiing purposes, unless required for runway inspections or maintenance.	It is transposed as AMC1 ATS.TR.155.
7.15.4.2	If runway lighting is not operated continuously, lighting following a take-off shall be provided as specified below: a) at aerodromes where air traffic control service is provided and where lights are centrally controlled, the lights of one runway shall remain lighted after take-off as long as is considered necessary for the return of the aircraft due to an emergency occurring during or immediately after take-off; b) at aerodromes without air traffic control service or without centrally controlled lights, the lights of one runway shall remain lighted until such time as would normally be required to reactivate the lights in the likelihood of the departing aircraft returning for an emergency landing, and in any case not less than fifteen minutes after take-off.	It is transposed as AMC1 ATS.TR.155.
7.15.4.2	*Note.— Where obstacle lighting is operated simultaneously with runway lighting as provided in 7.15.8.1, particular care should be taken to ensure that it is not turned off until no longer required by the aircraft.*	It is transposed as GM1 to AMC1 ATS.TR.155.
7.15.5	Stopway lights shall be operated whenever the associated runway lights are operated.	It is transposed as AMC1 ATS.TR.155.
7.15.6	*Note.— Taxiway lighting includes such lights as edge lights, centre line lights, stop bars and clearance bars.*	It is transposed as GM1 to AMC1 ATS.TR.155.
7.15.6	Where required to provide taxi guidance, taxiway lighting shall be turned on in such order that a continuous indication of the taxi path is presented to taxiing aircraft. Taxiway lighting or any portion thereof may be turned off when no longer needed.	It is transposed as AMC1 ATS.TR.155.

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7.15.7	Stop bars shall be switched on to indicate that all traffic shall stop and switched off to indicate that traffic may proceed.	It is transposed as AMC1 ATS.TR.155.
7.15.7	*Note.— Stop bars are located across taxiways at the point where it is desired that traffic stop, and consist of lights, showing red, spaced across the taxiway.*	It is transposed as GM1 to AMC1 ATS.TR.155.
7.15.8	*Note.— Obstacle lighting includes such lights as obstacle and unserviceability lights and hazard beacons.*	It is transposed as GM1 to AMC1 ATS.TR.155.
7.15.8.1	Obstacle lighting associated with the approach to or departure from a runway or channel, where the obstacle does not project through the inner horizontal surface, as described in Annex 14, Volume I, Chapter 6, may be turned off and on simultaneously with the runway or channel lights.	It is transposed as AMC1 ATS.TR.155.
7.15.8.2	Unserviceability lights may not be turned off as permitted under 7.15.2.2 while the aerodrome is open.	It is transposed as AMC1 ATS.TR.155.
7.15.9.1	Aerodrome controllers shall make use of automatic monitoring facilities, when provided, to ascertain whether the lighting is in good order and functioning according to selection.	It is transposed as AMC1 ATS.TR.155.
7.15.9.2	In the absence of an automatic monitoring system or to supplement such a system, the aerodrome controller shall visually observe such lighting as can be seen from the aerodrome control tower and use information from other sources such as visual inspections or reports from aircraft to maintain awareness of the operational status of the visual aids.	It is transposed as AMC1 ATS.TR.155.
7.15.9.3	On receipt of information indicating a lighting fault, the aerodrome controller shall take such action as is warranted to safeguard any affected aircraft or vehicles, and initiate action to have the fault rectified.	It is transposed as AMC1 ATS.TR.155.
7.16	The aerodrome operator shall designate, whenever necessary, a location or several locations on the movement area of the aerodrome as hot spot(s). The hot	Not transposed.

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	spot(s) shall be charted in accordance with Annex 4, 13.6, 14.6, 15.6 and Appendix 2.	
7.16	*Note.— Guidance material related to hot spots is contained in the* Manual on the Prevention of Runway Incursions *(Doc 9870).*	
8	ATS SURVEILLANCE SERVICES *Note.— ADS-contract (ADS-C), at this time used wholly to provide procedural separation, is covered in Chapter 13.*	
8.1	ATS SURVEILLANCE SYSTEMS CAPABILITIES	
8.1.1	ATS surveillance systems used in the provision of air traffic services shall have a very high level of reliability, availability and integrity. The possibility of system failures or significant system degradations which may cause complete or partial interruptions of service shall be very remote. Backup facilities shall be provided.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.1	*Note 1.— An ATS surveillance system will normally consist of a number of integrated elements, including sensor(s), data transmission links, data - processing systems and situation displays.*	Not transposed.
8.1.1	*Note 2.— Guidance material pertaining to use of radar and to system performance is contained in the* Manual on Testing of Radio Navigation Aids *(Doc 8071), the* Manual on the Secondary Surveillance Radar (SSR) Systems *(Doc 9684) and the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
8.1.1	*Note 3.— Guidance material pertaining to use of ADS-B and MLAT systems and their system performance is contained in Cir 326.*	Not transposed.

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8.1.1	*Note 4.—Functional and performance requirements pertaining to ATS surveillance systems are contained in* Annex 10 — *Aeronautical Telecommunications*, Volume IV — *Surveillance and Collision Avoidance Systems.*	
8.1.2	ATS surveillance systems should have the capability to receive, process and display, in an integrated manner, data from all the connected sources.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.3	ATS surveillance systems should be capable of integration with other automated systems used in the provision of ATS, and should provide for an appropriate level of automation with the objectives of improving the accuracy and timeliness of data displayed to the controller and reducing controller workload and the need for verbal coordination between adjacent control positions and ATC units.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.4	ATS surveillance systems should provide for the display of safety-related alerts and warnings, including conflict alert, minimum safe altitude warning, conflict prediction and unintentionally duplicated SSR codes and aircraft identification.	This provision is identical to Section 3.9 of Annex 11, is transposed as GM1 ATS.TR.160(d)(9).
8.1.5	States should, to the extent possible, facilitate the sharing of information derived from ATS surveillance systems in order to extend and improve surveillance coverage in adjacent control areas.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.6	States should, on the basis of regional air navigation agreements, provide for the automated exchange of coordination data relevant to aircraft being provided with ATS surveillance services, and establish automated coordination procedures.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.7	ATS surveillance systems, such as primary surveillance radar (PSR), secondary surveillance radar (SSR), ADS-B and MLAT systems may be used either alone or in combination in the provision of air traffic services, including in the provision of separation between aircraft, provided:	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.

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	a) reliable coverage exists in the area; b) the probability of detection, the accuracy and the integrity of the ATS surveillance system(s) are satisfactory; and c) in the case of ADS-B, the availability of data from participating aircraft is adequate.	
8.1.8	PSR systems should be used in circumstances where other ATS surveillance systems alone would not meet the air traffic services requirements.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.9	SSR systems, especially those utilizing monopulse techniques or having Mode S capability or MLAT, may be used alone, including in the provision of separation between aircraft, provided: a) the carriage of SSR transponders is mandatory within the area; and b) identification is established and maintained.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.10	ADS-B shall only be used for the provision of air traffic control service provided the quality of the information contained in the ADS-B message exceeds the values specified by the appropriate ATS authority.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.11	ADS-B may be used alone, including in the provision of separation between aircraft, provided: a) identification of ADS-B-equipped aircraft is established and maintained; b) the data integrity measure in the ADS-B message is adequate to support the separation minimum; c) there is no requirement for detection of aircraft not transmitting ADS-B; and d) there is no requirement for determination of aircraft position independent of the position-determining elements of the aircraft navigation system.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.

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8.1.12	The provision of ATS surveillance services shall be limited to specified areas of coverage and shall be subject to such other limitations as have been specified by the appropriate ATS authority. Adequate information on the operating methods used shall be published in aeronautical information publications, as well as operating practices and/or equipment limitations having direct effects on the operation of the air traffic services.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.12	*Note.— States will provide information on the area or areas where PSR, SSR, ADS-B and MLAT systems are in use as well as ATS surveillance services and procedures in accordance with Annex 15, 4.1.1 and Appendix 1.*	Not transposed.
8.1.12.1	The provision of ATS surveillance services shall be limited when position data quality degrades below a level specified by the appropriate ATS authority.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.1.13	Where PSR and SSR are required to be used in combination, SSR alone may be used in the event of PSR failure to provide separation between identified transponder-equipped aircraft, provided the accuracy of the SSR position indications has been verified by monitor equipment or other means.	Not transposed. Requirements for the ATS surveillance systems are established in Regulation (EU) No 1207/2011 'laying down requirements for the performance and the interoperability of surveillance for the single European sky.
8.2	SITUATION DISPLAYS	
8.2.1	A situation display providing surveillance information to the controller shall, as a minimum, include position indications, map information required to provide ATS surveillance services and, where available, information concerning the identity of the aircraft and the aircraft level.	Not transposed.
8.2.2	The ATS surveillance system shall provide for a continuously updated presentation of surveillance information, including position indications.	It is transposed as ATS IR ATS.TR.160(b)(1).

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8.2.3	Position indications may be displayed as: a) individual position symbols, e.g. PSR, SSR, ADS-B or MLAT symbols, or combined symbols; b) PSR blips; and c) SSR responses.	Not transposed.
8.2.4	When applicable, distinct symbols should be used for presentation of: a) unintentionally duplicated SSR codes and/or aircraft identification that are unintentionally duplicated; b) predicted positions for a non-updated track;and c) plot and track data.	Not transposed.
8.2.5	Where surveillance data quality degrades such that services need to be limited, symbology or other means shall be used to provide the controller with an indication of the condition.	Not transposed.
8.2.6	Reserved SSR codes, including 7500, 7600 and 7700, operation of IDENT, ADS-B emergency and/or urgency modes, safety-related alerts and warnings as well as information related to automated coordination shall be presented in a clear and distinct manner, providing for ease of recognition.	Not transposed.
8.2.7	Labels associated with displayed targets should be used to provide, in alphanumeric form, relevant information derived from the means of surveillance and, where necessary, the flight data processing system.	Not transposed.
8.2.8	Labels shall, as a minimum, include information relating to the identity of the aircraft, e.g. SSR code or aircraft identification and, if available, pressure-altitude-derived level information. This information may be obtained from SSR Mode A, SSR Mode C, SSR Mode S and/or ADS-B.	

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8.2.9	Labels shall be associated with their position indications in a manner precluding erroneous identification by or confusion on the part of the controller. All label information shall be presented in a clear and concise manner.	Not transposed.
8.3	COMMUNICATIONS	General communication requirements are already established under Section 5 of the draft IR, transposing relevant provisions from Annex 10 Volume II and Annex 11 Chapter 6. More detailed requirements and specifications for Communication systems will be developed under the RMT concerning Part CNS.
8.3.1	The level of reliability and availability of communications systems shall be such that the possibility of system failures or significant degradations is very remote. Adequate backup facilities shall be provided.	It is transposed as ATS IR ATS.OR.400(b).
8.3.1	*Note.— Guidance material and information pertaining to system reliability and availability are contained in Annex 10, Volume I, and the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
8.3.2	Direct pilot-controller communications shall be established prior to the provision of ATS surveillance services, unless special circumstances, such as emergencies, dictate otherwise.	It is transposed as AMC1 ATS.OR.400(a).
8.4	PROVISION OF ATS SURVEILLANCE SERVICES	
8.4.1	Information derived from ATS surveillance systems, including safety-related alerts and warnings such as conflict alert and minimum safe altitude warning, should be used to the extent possible in the provision of air traffic control service in order to improve capacity and efficiency as well as to enhance safety.	It is transposed as GM1 ATS.TR.160.
8.4.2	The number of aircraft simultaneously provided with ATS surveillance services shall not exceed that which can safely be handled under the prevailing circumstances, taking into account:	The general principle is transposed as ATS IR ATS.TR.160(b)(2). The elements to be considered are transposed as AMC1 ATS.TR.160(b)(2).

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	a) the structural complexity of the control area or sector concerned; b) the functions to be performed within the control area or sector concerned; c) assessments of controller workloads, taking into account different aircraft capabilities, and sector capacity; and d) the degree of technical reliability and availability of the primary and backup communications, navigation and surveillance systems, both in the aircraft and on the ground.	
8.5	USE OF SSR TRANSPONDERS AND ADS-B TRANSMITTERS	
8.5.1	GENERAL To ensure the safe and efficient use of ATS surveillance services, pilots and controllers shall strictly adhere to published operating procedures and standard radiotelephony phraseology shall be used. The correct setting of transponder codes and/or aircraft identification shall be ensured at all times.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2	SSR CODE MANAGEMENT	
8.5.2.1	Codes 7700, 7600 and 7500 shall be reserved internationally for use by pilots encountering a state of emergency, radiocommunication failure or unlawful interference, respectively.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2	SSR codes are to be allocated and assigned in accordance with the following principles.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2.1	Codes should be allocated to States or areas in accordance with regional air navigation agreements, taking into account overlapping radar coverage over	Not transposed. The principle and the related provisions are established in Section 13 of

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	adjacent airspaces.	SERA.
8.5.2.2.2	The appropriate ATS authority shall establish a plan and procedures for the allocation of codes to ATS units.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2.3	The plan and procedures should be compatible with those practised in adjacent States.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2.4	The allocation of a code should preclude the use of this code for any other function within the area of coverage of the same SSR for a prescribed time period.	Not transposed.
8.5.2.2.5	To reduce pilot and controller workload and the need for controller/pilot communications, the number of code changes required of the pilot should be kept to the minimum.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2.6	Codes shall be assigned to aircraft in accordance with the plan and procedures laid down by the appropriate ATS authority.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2.7	Where there is a need for individual aircraft identification, each aircraft shall be assigned a discrete code which should, whenever possible, be retained throughout the flight.	Not transposed. The principle and the related provisions are established in Section 13 of SERA.
8.5.2.2.8	Except for aircraft in a state of emergency, or during communication failure or unlawful interference situations, and unless otherwise agreed by regional air navigation agreement or between a transferring and an accepting ATC unit, the transferring unit shall assign Code A2000 to a controlled flight prior to transfer	Not transposed, as not applicable to the EU context.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	of communications.	
8.5.2.3	SSR codes shall be reserved, as necessary, for exclusive use by medical aircraft operating in areas of international armed conflict. SSR codes shall be allocated by ICAO through its Regional Offices in coordination with States concerned and should be assigned to aircraft for use within the area of conflict.	Not transposed. In the EU context, the task is performed by the Network Manager.
8.5.2.3	*Note.— The term "medical aircraft" refers to aircraft protected under the Geneva Conventions of 1949 and under the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the protection of victims of international armed conflicts (Protocol I).*	Not transposed.
8.5.3	*OPERATION OF SSR TRANSPONDERS* *Note.— SSR transponder operating procedures are contained in* Procedures for Air Navigation Services — Aircraft Operations *(PANS-OPS, Doc 8168), Volume I, Part III, Section 3.*	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA.
8.5.3.1	When it is observed that the Mode A code shown on the situation display is different to what has been assigned to the aircraft, the pilot shall be requested to confirm the code selected and, if the situation warrants (e.g. not being a case of unlawful interference), to reselect the correct code.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA.
8.5.3.2	If the discrepancy between assigned and displayed Mode A codes still persists, the pilot may be requested to stop the operation of the aircraft's transponder. The next control position and any other affected unit using SSR and/or MLAT in the provision of ATS shall be informed accordingly.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA.
8.5.3.3	Aircraft equipped with Mode S having an aircraft identification feature shall transmit the aircraft identification as specified in Item 7 of the ICAO flight plan or, when no flight plan has been filed, the aircraft registration.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.5.3.3	*Note.— All Mode S-equipped aircraft engaged in international civil aviation are required to have an aircraft identification feature (Annex 10, Volume IV, Chapter 2, 2.1.5.2, refers).*	Not transposed.
8.5.3.4	Whenever it is observed on the situation display that the aircraft identification transmitted by a Mode S-equipped aircraft is different from that expected from the aircraft, the pilot shall be requested to confirm and, if necessary, re-enter the correct aircraft identification.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA
8.5.3.5	If, following confirmation by the pilot that the correct aircraft identification has been set on the Mode S identification feature, the discrepancy continues to exist, the following actions shall be taken by the controller: a) inform the pilot of the persistent discrepancy; b) where possible, correct the label showing the aircraft identification on the situation display; and c) notify the erroneous aircraft identification transmitted by the aircraft to the next control position and any other interested unit using Mode S for identification purposes.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA
8.5.4	OPERATION OF ADS-B TRANSMITTERS *Note 1.— To indicate that it is in a state of emergency or to transmit other urgent information, an aircraft equipped with ADS-B might operate the emergency and/or urgency mode as follows:* *a) emergency;* *b) communication failure;* *c) unlawful interference;* *d) minimum fuel; and/or* *e) medical.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.5.4	*Note 2.— Some aircraft equipped with first generation ADS-B avionics do not have the capability described in Note 1 above and only have the capability to transmit a general emergency alert regardless of the code selected by the pilot.*	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA.
8.5.4.1	Aircraft equipped with ADS-B having an aircraft identification feature shall transmit the aircraft identification as specified in Item 7 of the ICAO flight plan or, when no flight plan has been filed, the aircraft registration.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA.
8.5.4.2	Whenever it is observed on the situation display that the aircraft identification transmitted by an ADS-B-equipped aircraft is different from that expected from the aircraft, the pilot shall be requested to confirm and, if necessary, re-enter the correct aircraft identification.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA
8.5.4.3	If, following confirmation by the pilot that the correct aircraft identification has been set on the ADS-B identification feature, the discrepancy continues to exist, the following actions shall be taken by the controller: a) inform the pilot of the persistent discrepancy; b) where possible, correct the label showing the aircraft identification on the situation display; and c) notify the next control position and any other unit concerned of the erroneous aircraft identification transmitted by the aircraft.	Not transposed. The principle and the related provisions are relevant in the context of Section 13 of SERA.
8.5.5	LEVEL INFORMATION BASED ON THE USE OF PRESSURE-ALTITUDE INFORMATION	
8.5.5.1.1	VERIFICATION OF LEVEL OF INFORMATION The tolerance value used to determine that pressure-altitude-derived level information displayed to the controller is accurate shall be ±60 m (±200 ft) in RVSM airspace. In other airspace, it shall be ±90 m (±300 ft), except that the appropriate ATS authority may specify a smaller criterion, but not less than ±60 m (±200 ft), if this is found to be more practical. Geometric height information	The first and the second sentence are transposed as AMC1 ATS.TR.275(a). The third sentence is transposed as ATS IR ATS.TR.210(c)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	shall not be used for separation.	
8.5.5.1.2	Verification of pressure-altitude-derived level information displayed to the controller shall be effected at least once by each suitably equipped ATC unit on initial contact with the aircraft concerned or, if this is not feasible, as soon as possible thereafter. The verification shall be effected by simultaneous comparison with altimeter-derived level information received from the same aircraft by radiotelephony. The pilot of the aircraft whose pressure-altitude-derived level information is within the approved tolerance value need not be advised of such verification. Geometric height information shall not be used to determine if altitude differences exist.	The first sentence is transposed a ATS IR ATS.TR.275(a). Transposed also as SERA.13010(b). The second sentence is transposed as AMC2 ATS.TR.275(a). The third and the fourth sentences are not transposed.
8.5.5.1.3	If the displayed level information is not within the approved tolerance value or when a discrepancy in excess of the approved tolerance value is detected subsequent to verification, the pilot shall be advised accordingly and requested to check the pressure setting and confirm the aircraft's level.	It is transposed as GM1 ATS.TR.275(a). Proposed also for transposition as GM1 to SERA.13010(b) within NPA 2015-14.
8.5.5.1.4	If, following confirmation of the correct pressure setting the discrepancy continues to exist, the following action should be taken according to circumstances: a) request the pilot to stop Mode C or ADS-B altitude data transmission, provided this does not cause the loss of position and identity information, and notify the next control positions or ATC unit concerned with the aircraft of the action taken; or b) inform the pilot of the discrepancy and request that the relevant operation continue in order to prevent loss of position and identity information of the aircraft and, when authorized by the appropriate ATS authority, override the label-displayed level information with the reported level. Notify the next control position or ATC unit concerned with the aircraft of the action taken.	It is transposed as GM1 ATS.TR.275(a). Proposed also for transposition as GM1 to SERA.13010(b) within NPA 2015-14.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.5.5.2.1	DETERMINATION OF LEVEL OCCUPANCY The criterion which shall be used to determine that a specific level is occupied by an aircraft shall be ±60 m (±200 ft) in RVSM airspace. In other airspace, it shall be ±90 m (±300 ft), except that the appropriate ATS authority may specify a smaller criterion, but not less than ±60 m (±200 ft), if this is found to be more practical.	It is transposed as AMC1 ATS.TR.275(b).
8.5.5.2.1	*Note.— For a brief explanation of the considerations underlying this value, see the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
8.5.5.2.2	*Aircraft maintaining a level*. An aircraft is considered to be maintaining its assigned level as long as the pressure-altitude-derived level information indicates that it is within the appropriate tolerances of the assigned level, as specified in 8.5.5.2.1.	It is transposed as AMC1 ATS.TR.275(b).
8.5.5.2.3	*Aircraft vacating a level.* An aircraft cleared to leave a level is considered to have commenced its manoeuvre and vacated the previously occupied level when the pressure-altitude-derived level information indicates a change of more than 90 m (300 ft) in the anticipated direction from its previously assigned level.	It is transposed as AMC1 ATS.TR.275(b).
8.5.5.2.4	*Aircraft passing a level in climb or descent.* An aircraft in climb or descent is considered to have crossed a level when the pressure-altitude-derived level information indicates that it has passed this level in the required direction by more than 90 m (300 ft).	It is transposed as AMC1 ATS.TR.275(b).
8.5.5.2.5	*Aircraft reaching a level.* An aircraft is considered to have reached the level to which it has been cleared when the elapsed time of three display updates, three sensor updates or 15 seconds, whichever is the greater, has passed since the pressure-altitude-derived level information has indicated that it is within the appropriate tolerances of the assigned level, as specified in 8.5.5.2.1.	It is transposed as AMC1 ATS.TR.275(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.5.5.2.6	Intervention by a controller shall only be required if differences in level information between that displayed to the controller and that used for control purposes are in excess of the values stated above.	Not transposed.
8.6	GENERAL PROCEDURES	
8.6.1	PERFORMANCE CHECKS	
8.6.1.1	The controller shall adjust the situation display(s) and carry out adequate checks on the accuracy thereof, in accordance with the technical instructions prescribed by the appropriate authority for the equipment concerned.	It is transposed as GM1 ATS.TR.160(b)(1).
8.6.1.2	The controller shall be satisfied that the available functional capabilities of the ATS surveillance system as well as the information presented on the situation display(s) is adequate for the functions to be performed.	It is transposed as GM1 ATS.TR.160(b)(1).
8.6.1.3	The controller shall report, in accordance with local procedures, any fault in the equipment, or any incident requiring investigation, or any circumstances which make it difficult or impractical to provide ATS surveillance services.	Not transposed.
8.6.2	IDENTIFICATION OF AIRCRAFT	
8.6.2.1.1	Before providing an ATS surveillance service to an aircraft, identification shall be established and the pilot informed. Thereafter, identification shall be maintained until termination of the ATS surveillance service.	It is transposed as IR ATS ATS.TR.160(c).
8.6.2.1.2	If identification is subsequently lost, the pilot shall be informed accordingly and, when applicable, appropriate instructions issued.	It is transposed as IR ATS ATS.TR.160(c).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.6.2.1.3	Identification shall be established by at least one of the methods specified in 8.6.2.2, 8.6.2.3, 8.6.2.4 and 8.6.2.5.	It is transposed as AMC1 ATS.TR.160(d)(1).
8.6.2.2	**ADS-B identification procedures** Where ADS-B is used for identification, aircraft may be identified by one or more of the following procedures: a) direct recognition of the aircraft identification in an ADS-B label; b) transfer of ADS-B identification (see 8.6.3); and c) observation of compliance with an instruction to TRANSMIT ADS-B IDENT.	It is transposed as AMC1 ATS.TR.160(d)(1).
8.6.2.2	*Note 1.— Some aircraft equipped with first generation ADS-B avionics do not have the capability of squawking IDENT while the emergency and/or urgency mode is selected.*	It is transposed as GM1 ATS.TR.160(d)(1).
8.6.2.2	*Note 2.— In automated systems, the "IDENT" feature may be presented in different ways, e.g. as a flashing of all or part of the position indication and associated label.*	Not transposed.
8.6.2.3.1	**SSR and/or MLAT identification procedures** Where SSR and/or MLAT is used for identification, aircraft may be identified by one or more of the following procedures: a) recognition of the aircraft identification in an SSR and/or MLAT label;	It is transposed as AMC1 ATS.TR.160(d)(1).
8.6.2.3.1	*Note.— The use of this procedure requires that the code/call sign correlation is achieved successfully, taking into account the Note following b) below.*	Not transposed.
8.6.2.3.1	b) recognition of an assigned discrete code, the setting of which has been verified, in an SSR and/or MLAT label;	It is transposed as AMC1 ATS.TR.160(d)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	and	
8.6.2.3.1	*Note.— The use of this procedure requires a system of code assignment which ensures that each aircraft in a given portion of airspace is assigned a discrete code (see 8.5.2.2.7).*	Not transposed.
8.6.2.3.1	c) direct recognition of the aircraft identification of a Mode S-equipped aircraft in an SSR and/or MLAT label;	It is transposed as AMC1 ATS.TR.160(d)(1).
8.6.2.3.1	*Note.— The aircraft identification feature available in Mode S transponders provides the means to identify directly individual aircraft on situation displays and thus offers the potential to eliminate ultimately the recourse to Mode A discrete codes for individual identification. This elimination will only be achieved in a progressive manner depending on the state of deployment of suitable ground and airborne installations.*	Not transposed.
8.6.2.3.1	d) by transfer of identification (see 8.6.3); e) observation of compliance with an instruction to set a specific code; f) observation of compliance with an instruction to squawk IDENT.	It is transposed as AMC1 ATS.TR.160(d)(1).
8.6.2.3.1	*Note 1.— In automated radar systems, the "IDENT" feature may be presented in different ways, e.g. as a flashing of all or part of the position indication and associated label.*	Not transposed.
8.6.2.3.1	*Note 2.— Garbling of transponder replies may produce "IDENT"-type of indications. Nearly simultaneous "IDENT" transmissions within the same area may give rise to errors in identification.*	Not transposed.
8.6.2.3.2	When a discrete code has been assigned to an aircraft, a check shall be made at the earliest opportunity to ensure that the code set by the pilot is identical to that assigned for the flight. Only after this check has been made shall the discrete	It is transposed as AMC1 ATS.TR.160(d)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	code be used as a basis for identification.	
8.6.2.4.1	**PSR identification procedures** Where PSR is used for identification, aircraft may be identified by one or more of the following procedures: a) by correlating a particular radar position indication with an aircraft reporting its position over, or as bearing and distance from, a point shown on the situation display, and by ascertaining that the track of the particular radar position is consistent with the aircraft path or reported heading;	It is transposed as AMC1 ATS.TR.160(d)(1).
8.6.2.4.1	*Note 1.— Caution must be exercised when employing this method since a position reported in relation to a point may not coincide precisely with the radar position indication of the aircraft on the situation display. The appropriate ATS authority may, therefore, prescribe additional conditions for the application of this method, e.g.:* *i) a level or levels above which this method may not be applied in respect of specified navigation aids; or* *ii) a distance from the radar site beyond which this method may not be applied.*	It is transposed as GM2 to AMC1 ATS.TR.160(d)(1).
8.6.2.4.1	*Note 2.— The term "a point" refers to a geographical point suitable for the purposes of identification. It is normally a reporting point defined by reference to a radio navigation aid or aids.*	It is transposed as GM2 to AMC1 to ATS.TR.160(d)(1).
8.6.2.4.1	b) by correlating an observed radar position indication with an aircraft which is known to have just departed, provided that the identification is established within 2 km (1 NM) from the end of the runway used. Particular care should be taken to avoid confusion with aircraft holding over or overflying the aerodrome, or with aircraft departing from or making a missed approach over adjacent runways; c) by transfer of identification (see 8.6.3); d) by ascertaining the aircraft heading, if circumstances require, and following a	It is transposed as AMC1 ATS.TR.160(d)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	period of track observation: — instructing the pilot to execute one or more changes of heading of 30 degrees or more and correlating the movements of one particular radar position indication with the aircraft's acknowledged execution of the instructions given; or — correlating the movements of a particular radar position indication with manoeuvres currently executed by an aircraft having so reported. When using these methods, the controller shall: i) verify that the movements of not more than one radar position indication correspond with those of the aircraft; and ii) ensure that the manoeuvre(s) will not carry the aircraft outside the coverage of the radar or the situation display.	
8.6.2.4.1	*Note 1.— Caution must be exercised when employing these methods in areas where route changes normally take place.*	Not transposed.
8.6.2.4.1	*Note 2.— With reference to ii) above, see also 8.6.5.1 regarding vectoring of controlled aircraft.*	Not transposed.
8.6.2.4.2	Use may be made of direction-finding bearings to assist in identification of an aircraft. This method, however, shall not be used as the sole means of establishing identification, unless so prescribed by the appropriate ATS authority for particular cases under specified conditions.	Not transposed.
8.6.2.5	**Additional identification method** When two or more position indications are observed in close proximity, or are observed to be making similar movements at the same time, or when doubt exists as to the identity of a position indication for any other reason, changes of heading should be prescribed or repeated as many times as necessary, or additional methods of identification should be employed, until all risk of error in identification is eliminated.	It is transposed as AMC1 ATS.TR.160(d)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.6.3	TRANSFER OF IDENTIFICATION	
8.6.3.1	Transfer of identification from one controller to another should only be attempted when it is considered that the aircraft is within the accepting controller's surveillance coverage.	It is transposed as AMC3 ATS.TR.160(d)(1).
8.6.3.2	Transfer of identification shall be effected by one of the following methods: a) designation of the position indication by automated means, provided that only one position indication is thereby indicated and there is no possible doubt of correct identification; b) notification of the aircraft's discrete SSR code -;	It is transposed as AMC3 ATS.TR.160(d)(1).
8.6.3.2	*Note .— The use of a discrete SSR code requires a system of code assignment which ensures that each aircraft in a given portion of airspace is assigned a discrete code (see 8.5.2.2.7).*	Not transposed.
8.6.3.2	c) notification that the aircraft is SSR Mode S-equipped with an aircraft identification feature when SSR Mode S coverage is available; d) notification that the aircraft is ADS-B-equipped with an aircraft identification feature when compatible ADS-B coverage is available; e) direct designation (pointing with the finger) of the position indication, if the two situation displays are adjacent, or if a common "conference" type of situation display is used;	It is transposed as AMC3 ATS.TR.160(d)(1).
8.6.3.2	*Note.— Attention must be given to any errors which might occur due to parallax effects.*	It is transposed as GM1 ATS.TR.160(d)(1).
8.6.3.2	g) designation of the position indication by reference to, or in terms of bearing and distance from, a geographical position or navigational facility accurately indicated on both situation displays, together with the track of the observed	It is transposed as AMC3 ATS.TR.160(d)(1).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	position indication if the route of the aircraft is not known to both controllers;	
8.6.3.2	*Note.— Caution must be exercised before transferring identification using this method, particularly if other position indications are observed on similar headings and in close proximity to the aircraft under control. Inherent radar deficiencies, such as inaccuracies in bearing and distance of the radar position indications displayed on individual situation displays and parallax errors, may cause the indicated position of an aircraft in relation to the known point to differ between the two situation displays. The appropriate ATS authority may,* *therefore, prescribe additional conditions for the application of this method, e.g.:* *i) a maximum distance from the common reference point used by the two controllers; and* *ii) a maximum distance between the position indication as observed by the accepting controller and the one stated by the transferring controller.*	It is transposed as GM1 ATS.TR.160(d)(1).
8.6.3.2	h) where applicable, issuance of an instruction to the aircraft by the transferring controller to change SSR code and the observation of the change by the accepting controller; or i) issuance of an instruction to the aircraft by the transferring controller to squawk/transmit IDENT and observation of this response by the accepting controller.	It is transposed as AMC3 ATS.TR.160(d)(1).
8.6.3.2	*Note.— The use of procedures in paragraphs (h) and (i) requires prior coordination between the controllers, since the indications to be observed by the accepting controller are of short duration.*	It is transposed as GM1 ATS.TR.160(d)(1).
8.6.4	POSITION INFORMATION	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.6.4.1	An aircraft provided with ATS surveillance service should be informed of its position in the following circumstances: a) upon identification, except when the identification is established: i) based on the pilot's report of the aircraft position or within one nautical mile of the runway upon departure and the observed position on the situation display is consistent with the aircraft's time of departure; or ii) by use of ADS-B aircraft identification, Mode S aircraft identification or assigned discrete SSR codes and the location of the observed position indication is consistent with the current flight plan of the aircraft; or iii) by transfer of identification; b) when the pilot requests this information; c) when a pilot's estimate differs significantly from the controller's estimate based on the observed position; d) when the pilot is instructed to resume own navigation after vectoring if the current instructions had diverted the aircraft from a previously assigned route (see 8.6.5.5); e) immediately before termination of ATS surveillance service, if the aircraft is observed to deviate from its intended route.	It is transposed as AMC1 ATS.TR.160(d)(2).
8.6.4.2	Position information shall be passed to aircraft in one of the following forms: a) as a well-known geographical position; b) magnetic track and distance to a significant point, an en-route navigation aid, or an approach aid; c) direction (using points of the compass) and distance from a known position; d) distance to touchdown, if the aircraft is on final approach; or e) distance and direction from the centre line of an ATS route.	It is transposed as AMC1 ATS.TR.160(d)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.6.4.3	Whenever practicable, position information shall relate to positions or routes pertinent to the navigation of the aircraft concerned and shown on the situation display map.	It is transposed as AMC1 ATS.TR.160(d)(2).
8.6.4.4	When so informed, the pilot may omit position reports at compulsory reporting points or report only over those reporting points specified by the air traffic services unit concerned. Unless automated position reporting is in effect (e.g. ADS-C), pilots shall resume voice or CPDLC position reporting: a) when so instructed; b) when advised that the ATS surveillance service has been terminated; or c) when advised that identification is lost.	Not transposed. Transposed in SERA.8025(a)(2).
8.6.5	VECTORING	
8.6.5.1	Vectoring shall be achieved by issuing to the pilot specific headings which will enable the aircraft to maintain the desired track. When vectoring an aircraft, a controller shall comply with the following: a) whenever practicable, the aircraft shall be vectored along tracks on which the pilot can monitor the aircraft position with reference to pilot-interpreted navigation aids (this will minimize the amount of navigational assistance required and alleviate the consequences resulting from an ATS surveillance system failure); b) when an aircraft is given its initial vector diverting it from a previously assigned route, the pilot shall be informed what the vector is to accomplish, and the limit of the vector shall be specified (e.g. to ... position, for ... approach); c) except when transfer of control is to be effected, aircraft shall not be vectored closer than 4.6 km (2.5 NM) or, where the minimum permissible separation is greater than 9.3 km (5 NM), a distance equivalent to one-half of	The first sentence and point a) are transposed as GM1 to AMC1 ATS.TR.160(d)(3). The second sentence and the bullet point list as from point b) are transposed as AMC1 ATS.TR.160(d)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	the prescribed separation minimum, from the limit of the airspace for which the controller is responsible, unless local arrangements have been made to ensure that separation will exist with aircraft operating in adjoining areas; d) controlled flights shall not be vectored into uncontrolled airspace except in the case of emergency or in order to circumnavigate adverse meteorological conditions (in which case the pilot should be so informed), or at the specific request of the pilot; and e) when an aircraft has reported unreliable directional instruments, the pilot shall be requested, prior to the issuance of manoeuvring instructions, to make all turns at an agreed rate and to carry out the instructions immediately upon receipt.	
8.6.5.2	When vectoring an IFR flight and when giving an IFR flight a direct routing which takes the aircraft off an ATS route, the controller shall issue clearances such that the prescribed obstacle clearance will exist at all times until the aircraft reaches the point where the pilot will resume own navigation. When necessary, the relevant minimum vectoring altitude shall include a correction for low temperature effect.	A proposal to amend this provision was approved by EANPG in November 2015 (See EANPG #57 Final Report). The Agency, supported by the RMG Members, decided to propose the resulting amended text Section 8.6.5.2 as ATS.IR ATS.TR.235(a)(5).
8.6.5.2	*Note 1.— When an IFR flight is being vectored, the pilot may be unable to determine the aircraft's exact position in respect to obstacles in this area and consequently the altitude which provides the required obstacle clearance. Detailed obstacle clearance criteria are contained in PANS-OPS (Doc 8168), Volumes I and II. See also 8.6.8.2.*	It is transposed as GM1 ATS.TR.235(a)(5), and includes also the proposed new Note 1 proposed by EANPG.
8.6.5.2	*Note 2.— It is the responsibility of the ATS authority to provide the controller with minimum altitudes corrected for temperature effect.*	Not transposed. EANPG #57 proposes to amend this Note and to elevate it to Section 8.6.5.2.2, with some modifications.
8.6.5.3	Whenever possible, minimum vectoring altitudes should be sufficiently high to minimize activation of aircraft ground proximity warning systems.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.6.5.3	*Note.— Activation of such systems will induce aircraft to pull up immediately and climb steeply to avoid hazardous terrain, possibly compromising separation between aircraft.*	Not transposed.
8.6.5.4	States shall encourage operators to report incidents involving activations of aircraft ground proximity warning systems so that their locations can be identified and altitude, routing and/or aircraft operating procedures can be altered to prevent recurrences.	Not transposed.
8.6.5.5	In terminating vectoring of an aircraft, the controller shall instruct the pilot to resume own navigation, giving the pilot the aircraft's position and appropriate instructions, as necessary, in the form prescribed in 8.6.4.2 b), if the current instructions had diverted the aircraft from a previously assigned route.	It is transposed as AMC1 ATS.TR.160(d)(3).
8.6.6	NAVIGATION ASSISTANCE	
8.6.6.1	An identified aircraft observed to deviate significantly from its intended route or designated holding pattern shall be advised accordingly. Appropriate action shall also be taken if, in the opinion of the controller, such deviation is likely to affect the service being provided.	It is transposed as AMC1 ATS.TR.160(d)(4).
8.6.6.2	The pilot of an aircraft requesting navigation assistance from an air traffic control unit providing ATS surveillance services shall state the reason (e.g. to avoid areas of adverse weather or unreliable navigational instruments) and shall give as much information as possible in the circumstances.	Not transposed.
8.6.7	INTERRUPTION OR TERMINATION OF ATS SURVEILLANCE SERVICE	
8.6.7.1	An aircraft which has been informed that it is provided with ATS surveillance service should be informed immediately when, for any reason, the service is	It is transposed as AMC1 ATS.TR.160(c).

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	interrupted or terminated.	
8.6.7.1	*Note.— The transition of an aircraft across adjoining areas of radar and/or ADS-B and/or MLAT systems coverage will not normally constitute an interruption or termination of the ATS surveillance service.*	It is not to be transposed as ATS requirement.
8.6.7.2	When the control of an identified aircraft is to be transferred to a control sector that will provide the aircraft with procedural separation, the transferring controller shall ensure that appropriate procedural separation is established between that aircraft and any other controlled aircraft before the transfer is effected.	It is transposed as GM1 ATS.TR.210(d).
8.6.8	MINIMUM LEVELS	
8.6.8.1	The controller shall at all times be in possession of full and up-to-date information regarding: a) established minimum flight altitudes within the area of responsibility; b) the lowest usable flight level or levels determined in accordance with Chapters 4 and 5; and c) established minimum altitudes applicable to procedures based on tactical vectoring.	It is transposed as ATS IR ATS.TR.160(b)(3). Reference to the necessary temperature correction is added for points (i) and (iii).
8.6.8.2	Unless otherwise specified by the appropriate ATS authority, minimum altitudes for procedures based on tactical vectoring with any ATS surveillance system shall be determined using the criteria applicable to tactical radar vectoring.	Not transposed. To be considered by RMT.0445 (ASD).
8.6.8.2	*Note.— Criteria for the determination of minimum altitudes applicable to procedures based on tactical radar vectoring are contained in* Procedures for Air Navigation Services — Aircraft Operations *(PANS-OPS, Doc 8168),*	Not transposed.

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8.6.9	INFORMATION REGARDING ADVERSE WEATHER	
8.6.9.1	Information that an aircraft appears likely to penetrate an area of adverse weather should be issued in sufficient time to permit the pilot to decide on an appropriate course of action, including that of requesting advice on how best to circumnavigate the adverse weather area, if so desired.	It is transposed as GM1 ATS.TR.160(d)(5).
8.6.9.1	*Note.— Depending on the capabilities of the ATS surveillance system, areas of adverse weather may not be presented on the situation display. An aircraft's weather radar will normally provide better detection and definition of adverse weather than radar sensors in use by ATS.*	It is transposed as GM1 ATS.TR.160(d)(5).
8.6.9.2	In vectoring an aircraft for circumnavigating any area of adverse weather, the controller should ascertain that the aircraft can be returned to its intended or assigned flight path within the coverage of the ATS surveillance system and, if this does not appear possible, inform the pilot of the circumstances.	It is transposed as GM1 ATS.TR.160(d)(5).
8.6.9.2	*Note.— Attention must be given to the fact that under certain circumstances the most active area of adverse weather may not be displayed.*	It is transposed as AMC1 ATS.TR.160(a).
8.6.10	REPORTING OF SIGNIFICANT METEOROLOGICAL INFORMATION TO METEOROLOGICAL OFFICES Although a controller is not required to keep a special watch for heavy precipitation, etc., information on the position, intensity, extent and movement of significant meteorological conditions (i.e. heavy showers or well-defined frontal surfaces) as observed on situation displays should, when practicable, be reported to the associated meteorological office.	Not transposed. The principle is covered by ATS.OR.120(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.7	USE OF ATS SURVEILLANCE SYSTEMS IN THE AIR TRAFFIC CONTROL SERVICE	
8.7	*Note.— The procedures in this Section are general procedures applicable when an ATS surveillance system is used in the provision of area control service or approach control service. Additional procedures applicable in the provision of approach control service are detailed in Section 8.9.*	It is transposed as AMC1 ATS.TR.160(a).
8.7.1	The information provided by ATS surveillance systems and presented on a situation display may be used to perform the following functions in the provision of air traffic control service: a) provide ATS surveillance services as necessary in order to improve airspace utilization, reduce delays, provide for direct routings and more optimum flight profiles, as well as to enhance safety; b) provide vectoring to departing aircraft for the purpose of facilitating an expeditious and efficient departure flow and expediting climb to cruising level; c) provide vectoring to aircraft for the purpose of resolving potential conflicts; d) provide vectoring to arriving aircraft for the purpose of establishing an expeditious and efficient approach sequence; e) provide vectoring to assist pilots in their navigation, e.g. to or from a radio navigation aid, away from or around areas of adverse weather; f) provide separation and maintain normal traffic flow when an aircraft experiences communication failure within the area of coverage; g) maintain flight path monitoring of air traffic;	It is transposed as AMC1 ATS.TR.160(a).
8.7.1	*Note.— Where tolerances regarding such matters as adherence to track, speed or time have been prescribed by the appropriate ATS authority, deviations are not considered significant until such tolerances are exceeded.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.7.1	h) when applicable, maintain a watch on the progress of air traffic, in order to provide a procedural controller with: i) improved position information regarding aircraft under control; ii) supplementary information regarding other traffic; and iii) information regarding any significant deviations by aircraft from the terms of their respective air traffic control clearances, including their cleared routes as well as levels, when appropriate.	It is transposed as AMC1 ATS.TR.160(a).
8.7.2	SEPARATION APPLICATION	
8.7.2	*Note.— Factors which the controller using an ATS surveillance system must take into account in determining the spacing to be applied in particular circumstances in order to ensure that the separation minimum is not infringed include aircraft relative headings and speeds, ATS surveillance system technical limitations, controller workload and any difficulties caused by communication congestion. Guidance material on this subject is contained in the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
8.7.2.1	Except as provided for in 8.7.2.8, 8.7.2.9 and 8.8.2.2, the separation minima specified in 8.7.3 shall only be applied between identified aircraft when there is reasonable assurance that identification will be maintained.	Not transposed.
8.7.2.2	When control of an identified aircraft is to be transferred to a control sector that will provide the aircraft with procedural separation, such separation shall be established by the transferring controller before the aircraft reaches the limits of the transferring controller's area of responsibility, or before the aircraft leaves the relevant area of surveillance coverage.	It is transposed as GM1 ATS.TR.210(d).
8.7.2.3	When authorized by the appropriate ATS authority, separation based on the use of ADS-B, SSR and/or MLAT, and/or PSR position symbols and/or PSR blips	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	shall be applied so that the distance between the centres of the position symbols and/or PSR blips, representing the positions of the aircraft concerned, is never less than a prescribed minimum.	
8.7.2.4	Separation based on the use of PSR blips and SSR responses shall be applied so that the distance between the centre of the PSR blip and the nearest edge of the SSR response (or centre, when authorized by the appropriate ATS authority) is never less than a prescribed minimum.	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2).
8.7.2.5	Separation based on the use of ADS-B position symbols and SSR responses shall be applied so that the distance between the centre of the ADS-B position symbol and the nearest edge of the SSR response (or the centre, when authorized by the appropriate ATS authority) is never less than a prescribed minimum.	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2).
8.7.2.6	Separation based on the use of SSR responses shall be applied so that the distance between the closest edges of the SSR responses (of the centres, when authorized by the appropriate ATS authority) is never less than a prescribed minimum.	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2).
8.7.2.7	In no circumstances shall the edges of the position indications touch or overlap unless vertical separation is applied between the aircraft concerned, irrespective of the type of position indication displayed and separation minimum applied.	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2).
8.7.2.8	In the event that the controller has been notified of a controlled flight entering or about to enter the airspace within which the separation minima specified in 8.7.3 is applied, but has not identified the aircraft, the controller may, if so prescribed by the appropriate ATS authority, continue to provide an ATS surveillance service to identified aircraft provided that: a) reasonable assurance exists that the unidentified controlled flight will be identified using SSR and/or ADS-B and/or MLAT or the flight is being operated by an aircraft of a type which may be expected to give an adequate	It is transposed as GM1 ATS.TR.160(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	return on primary radar in the airspace within which the separation is applied; and b) the separation is maintained between identified flights and any other observed ATS surveillance system position indications until either the unidentified controlled flight has been identified or procedural separation has been established.	
8.7.2.9	The separation minima specified in 8.7.3 may be applied between an aircraft taking off and a preceding departing aircraft or other identified traffic provided there is reasonable assurance that the departing aircraft will be identified within 2 km (1 NM) from the end of the runway, and that, at the time, the required separation will exist.	It is transposed as AMC2 ATS.TR.210(c)(2).
8.7.2.10	The separation minima specified in 8.7.3 shall not be applied between aircraft holding over the same holding fix. Application of ATS surveillance system separation minima based on radar and/or ADS-B and/or MLAT systems between holding aircraft and other flights shall be subject to requirements and procedures prescribed by the appropriate ATS authority.	The first sentence is transposed as AMC2 ATS.TR.210(c)(2). The second sentence is to be considered by RMT.0445 (ASD).
8.7.3	SEPARATION MINIMA BASED ON ATS SURVEILLANCE SYSTEM	
8.7.3.1	Unless otherwise prescribed in accordance with 8.7.3.2, 8.7.3.3 or 8.7.3.4, or Chapter 6 (with respect to independent and dependent parallel approaches), the horizontal separation minimum based on radar and/or ADS-B and/or MLAT systems shall be 9.3 km (5.0 NM).	It is transposed as AMC1 ATS.TR.210(c)(2).
8.7.3.2	The separation minimum in 8.7.3.1 may, if so prescribed by the appropriate ATS authority, be reduced, but not below: a) 5.6 km (3.0 NM) when radar and/or ADS-B and/or MLAT systems' capabilities at a given location so permit; and	It is transposed as AMC1 ATS.TR.210(c)(2).

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	b) 4.6 km (2.5 NM) between succeeding aircraft which are established on the same final approach track within 18.5 km (10 NM) of the runway threshold. A reduced separation minimum of 4.6 km (2.5 NM) may be applied, provided: i) the average runway occupancy time of landing aircraft is proven, by means such as data collection and statistical analysis and methods based on a theoretical model, not to exceed 50 seconds; ii) braking action is reported as good and runway occupancy times are not adversely affected by runway contaminants such as slush, snow or ice; iii) an ATS surveillance system with appropriate azimuth and range resolution and an update rate of 5 seconds or less is used in combination with suitable displays; iv) the aerodrome controller is able to observe, visually or by means of surface movement radar (SMR), MLAT system or a surface movement guidance and control system (SMGCS), the runway-in-use and associated exit and entry taxiways; v) distance-based wake turbulence separation minima in 8.7.3.4, or as may be prescribed by the appropriate ATS authority (e.g. for specific aircraft types), do not apply; vi) aircraft approach speeds are closely monitored by the controller and when necessary adjusted so as to ensure that separation is not reduced below the minimum; vii) aircraft operators and pilots have been made fully aware of the need to exit the runway in an expeditious manner whenever the reduced separation minimum on final approach is applied; and viii) procedures concerning the application of the reduced minimum are published in AIPs.	
8.7.3.3	The separation minimum or minima based on radar and/or ADS-B and/or MLAT systems to be applied shall be prescribed by the appropriate ATS authority according to the capability of the particular ATS surveillance system or sensor to accurately identify the aircraft position in relation to the centre of a	It is transposed as GM1 to AMC1 ATS.TR.210(c)(2).

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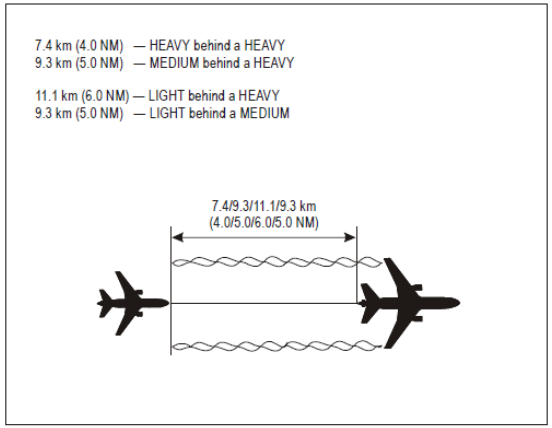
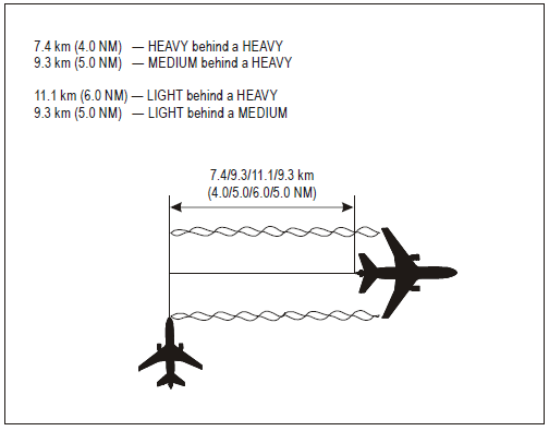
	position symbol, PSR blip, SSR response and taking into account factors which may affect the accuracy of the ATS surveillance system-derived information, such as aircraft range from the radar site and the range scale of the situation display in use.	
8.7.3.4	The following distance-based wake turbulence separation minima shall be applied to aircraft being provided with an ATS surveillance service in the approach and departure phases of flight in the circumstances given in 8.7.3.4.1.	It is transposed as AMC6 ATS.TR.220. The proposed text includes separation minima to be applied in presence of a category SUPER aircraft which include the aircraft indicated by the competent authority (explicitly the Airbus A380-800). It is developed on the basis of the ICAO Letter ICAO TEC/OPS/SEP – 08-0294.SLG 'Wake turbulence aspects of Airbus A380-800 aircraft' dated 08 July 2008).
8.7.3.4	*Aircraft category* *Preceding aircraft* / *Succeeding aircraft* / *Distance-based wake turbulence separation minima* HEAVY / HEAVY / 7.4 km (4.0 NM) HEAVY / MEDIUM / 9.3 km (5.0 NM) HEAVY / LIGHT / 11.1 km (6.0 NM) MEDIUM / LIGHT / 9.3 km (5.0 NM)	The table is included in AMC6 ATS.TR.220.
8.7.3.4	*Note.— The provisions governing wake turbulence aircraft categorization are set forth in Chapter 4, Section 4.9.*	Not transposed.
8.7.3.4.1	The minima set out in 8.7.3.4 shall be applied when: a) an aircraft is operating directly behind another aircraft at the same altitude or less than 300 m (1 000 ft) below; or b) both aircraft are using the same runway, or parallel runways separated by less than 760 m (2 500 ft); or c) an aircraft is crossing behind another aircraft, at the same altitude or less than 300 m (1 000 ft) below.	It is transposed as ATS IR ATS.TR.220.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.7.3.4.1	*Note.— See Figures 8-1A and 8-1B.*	Not transposed.
8.7.4	TRANSFER OF CONTROL	Reference to procedures for 'transferring of control of aircraft' is established in ATS.TR.160(d)(6).
8.7.4.1	Where an ATS surveillance service is being provided, transfer of control should be effected, whenever practicable, so as to enable the uninterrupted provision of the ATS surveillance service.	It transposed as AMC1 ATS.TR.160(d)(6).
8.7.4.2	Where SSR and/or ADS-B and/or MLAT is used and the display of position indications with associated labels is provided for, transfer of control of aircraft between adjacent control positions or between adjacent ATC units may be effected without prior coordination, provided that: a) updated flight plan information on the aircraft about to be transferred, including the discrete assigned SSR code or, with respect to Mode S and ADS-B, the aircraft identification, is provided to the accepting controller prior to transfer; b) the ATS surveillance system coverage provided to the accepting controller is such that the aircraft concerned is presented on the situation display before the transfer is effected and is identified on, but preferably before, receipt of the initial call; c) when the controllers are not physically adjacent, two-way direct speech facilities, which permit communications to be established instantaneously, are available between them at all times;	It transposed as AMC1 ATS.TR.160(d)(6).
8.7.4.2	*Note.— "Instantaneous" refers to communications which effectively provide for immediate access between controllers.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.7.4.2	d) the transfer point or points and all other conditions of application, such as direction of flight, specified levels, transfer of communication points, and especially an agreed minimum separation between aircraft, including that applicable to succeeding aircraft on the same route, about to be transferred as observed on the situation display, have been made the subject of specific instructions (for intra-unit transfer) or of a specific letter of agreement between two adjacent ATC units; e) the instructions or letter of agreement specify explicitly that the application of this type of transfer of control may be terminated at any time by the accepting controller, normally with an agreed advance notice; f) the accepting controller is informed of any level, speed or vectoring instructions given to the aircraft prior to its transfer and which modify its anticipated flight progress at the point of transfer.	It transposed as AMC1 ATS.TR.160(d)(6).
8.7.4.3	The minimum agreed separation between aircraft about to be transferred (8.7.4.2 d) refers) and the advance notice (8.7.4.2 e) refers) shall be determined taking into account all relevant technical, operational and other circumstances. If circumstances arise in which these agreed conditions can no longer be satisfied, controllers shall revert to the procedure in 8.7.4.4 until the situation is resolved.	It transposed as AMC1 ATS.TR.160(d)(6).
8.7.4.4	Where primary radar is being used, and where another type of ATS surveillance system is employed but the provisions of 8.7.4.2 are not applied, the transfer of control of aircraft between adjacent control positions or between two adjacent ATS units may be effected, provided that: a) identification has been transferred to or has been established directly by the accepting controller; b) when the controllers are not physically adjacent, two-way direct-speech facilities between them are at all times available which permit communications to be established instantaneously; c) separation from other controlled flights conforms to the minima authorized	It transposed as AMC1 ATS.TR.160(d)(6).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	for use during transfer of control between the sectors or units concerned; d) the accepting controller is informed of any level, speed or vectoring instructions applicable to the aircraft at the point of transfer; e) radiocommunication with the aircraft is retained by the transferring controller until the accepting controller has agreed to assume responsibility for providing the ATS surveillance service to the aircraft. Thereafter, the aircraft should be instructed to change over to the appropriate channel and from that point is the responsibility of the accepting controller.	
8.7.5	SPEED CONTROL	
8.7.5	Subject to conditions specified by the appropriate ATS authority, including consideration of aircraft performance limitations, a controller may, in order to facilitate sequencing or to reduce the need for vectoring, request aircraft to adjust their speed in a specified manner.	Not transposed.
8.7.5	*Note.— Procedures for speed control instructions are contained in Chapter 4, Section 4.6.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Figure 8-1A	 **Figure 8-1A. Operating directly behind (see 8.7.3.4 and 8.7.3.4.1)**	It is included in GM1 to AMC6 ATS.TR.220.
Figure 8-1B	 **Figure 8-1B. Crossing behind (see 8.7.3.4 and 8.7.3.4.1)**	It is included in GM1 to AMC6 ATS.TR.220.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.8	EMERGENCIES, HAZARDS AND EQUIPMENT FAILURES *Note.— See also Chapter 15.*	Note not transposed.
8.8.1	EMERGENCIES	
8.8.1.1	In the event of an aircraft in, or appearing to be in, any form of emergency, every assistance shall be provided by the controller, and the procedures prescribed herein may be varied according to the situation.	Not transposed. SERA Section 11 'Interference, Emergency, Contingencies and Interception' and the associated AMC/GM proposed with NPA 2015-14 contain general provisions addressing emergencies.
8.8.1.2	The progress of an aircraft in emergency shall be monitored and (whenever possible) plotted on the situation display until the aircraft passes out of coverage of the ATS surveillance system, and position information shall be provided to all air traffic services units which may be able to give assistance to the aircraft. Transfer to adjacent sectors shall also be effected when appropriate.	It is transposed as AMC1 ATS.TR.415.
8.8.1.2	*Note.— If the pilot of an aircraft encountering a state of emergency has previously been directed by ATC to select a specific transponder code and/or an ADS-B emergency mode, that code/mode will normally be maintained unless, in special circumstances, the pilot has decided or has been advised otherwise. Where ATC has not requested a code or emergency mode to be set, the pilot will set the transponder to Mode A Code 7700 and/or the appropriate ADS-B emergency mode.*	Not transposed.
8.8.1.3	Whenever a general ADS-B emergency alert is observed on the situation display and there is no other indication of the particular nature of the emergency, the controller shall take the following action: a) attempt to establish communication with the aircraft to verify the nature of the emergency; or b) if no response is received from the aircraft, the controller shall attempt to ascertain if the aircraft is able to receive transmissions from the air traffic	Not transposed. In consideration of the situation explained in Notes 1 and 2, the requirements covers a real safety concern. However, the implementation of ADS-B-only environment appears to be still very limited in Europe. Therefore, the transposition of this provision as EU ATS requirement seems to be premature.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	control unit by requesting it to execute a specified manoeuvre which can be observed on the situation display.	
8.8.1.3	*Note 1.— Some aircraft equipped with first generation ADS-B avionics have the capability to transmit a general emergency alert only, regardless of the code selected by the pilot.*	Not transposed.
8.8.1.3	*Note 2.— Some aircraft equipped with first generation ADS-B avionics do not have the capability of squawking IDENT while the emergency and/or urgency mode is selected.*	Not transposed.
8.8.2	COLLISION HAZARDS INFORMATION	
8.8.2.1	When an identified controlled flight is observed to be on a conflicting path with an unknown aircraft deemed to constitute a collision hazard, the pilot of the controlled flight shall, whenever practicable: a) be informed of the unknown aircraft, and if so requested by the controlled flight or if, in the opinion of the controller, the situation warrants, a course of avoiding action should be suggested; and b) be notified when the conflict no longer exists.	It is transposed as ATS IR ATS.TR.160(e). Transposed also as SERA.7002(a).
8.8.2.2	When an identified IFR flight operating outside controlled airspace is observed to be on a conflicting path with another aircraft, the pilot should: a) be informed as to the need for collision avoidance action to be initiated, and if so requested by the pilot or if, in the opinion of the controller, the situation warrants, a course of avoiding action should be suggested; and b) be notified when the conflict no longer exists.	It is transposed as GM1 ATS.TR.160(e).
8.8.2.3	Information regarding traffic on a conflicting path should be given, whenever practicable, in the following form:	It is transposed as AMC1 ATS.TR.160(e). Proposed for transposition as AMC1 SERA.7002(a)(1) 'Collision hazard

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	a) relative bearing of the conflicting traffic in terms of the 12-hour clock; b) distance from the conflicting traffic in kilometres (nautical miles); c) direction in which the conflicting traffic appears to be proceeding; d) level and type of aircraft or, if unknown, relative speed of the conflicting traffic, e.g. slow or fast.	information when ATS based on surveillance are provided'.
8.8.2.4	Pressure-altitude-derived level information, even when unverified, should be used in the provision of collision hazard information because such information, particularly if available from an otherwise unknown aircraft (e.g. a VFR flight) and given to the pilot of a known aircraft, could facilitate the location of a collision hazard.	It is transposed as AMC1 ATS.TR.160(e). Proposed for transposition as AMC1 SERA.7002(a)(1) 'Collision hazard information when ATS based on surveillance are provided'.
8.8.2.4.1	When the pressure-altitude-derived level information has been verified, the information shall be passed to pilots in a clear and unambiguous manner. If the level information has not been verified, the accuracy of the information should be considered uncertain and the pilot shall be informed accordingly.	It is transposed as AMC1 ATS.TR.160(e). Proposed for transposition as AMC1 SERA.7002(a)(1) 'Collision hazard information when ATS based on surveillance are provided'.
8.8.3.	FAILURE OF EQUIPMENT	
8.8.3.1	AIRCRAFT RADIO TRANSMITTER FAILURE	
8.8.3.1.1	If two-way communication is lost with an aircraft, the controller should determine whether or not the aircraft's receiver is functioning by instructing the aircraft on the channel so far used to acknowledge by making a specified manoeuvre and by observing the aircraft's track, or by instructing the aircraft to operate IDENT or to make SSR code and/or ADS-B transmission changes.	The content of this Section was assessed also under the SERA Rulemaking activities, the conclusion being that, having this Section to be consistent globally and being subject to possible amendments by ICAO as a result of ongoing discussions, a placeholder/reference (SERA.8035(b)) in the SERA Regulation has been established, awaiting the ICAO conclusions. Such conclusions will be evaluated in the future and possibly lead to an amendment of SERA.8035(b). On these grounds, it is not transposed as ATS requirement.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.8.3.1.1	*Note 1.— Transponder-equipped aircraft experiencing radiocommunication failure will operate the transponder on Mode A Code 7600.*	Not transposed. The principle is covered by SERA.13005.
8.8.3.1.1	*Note 2.— ADS-B-equipped aircraft experiencing radiocommunication failure may transmit the appropriate ADS-B emergency and/or urgency mode.*	Not transposed.
8.8.3.1.2	If the action prescribed in 8.8.3.1.1 is unsuccessful, it shall be repeated on any other available channel on which it is believed that the aircraft might be listening.	See 8.8.3.1.1. Not transposed.
8.8.3.1.3	In both the cases covered by 8.8.3.1.1 and 8.8.3.1.2, any manoeuvring instructions shall be such that the aircraft would regain its current cleared track after having complied with the instructions received.	See 8.8.3.1.1. Not transposed.
8.8.3.1.4	Where it has been established by the action in 8.8.3.1.1 that the aircraft's radio receiver is functioning, continued control can be effected using SSR code/ADS-B transmission changes or IDENT transmissions to obtain acknowledgement of clearances issued to the aircraft.	See 8.8.3.1.1. Not transposed.
8.8.3.2	COMPLETE AIRCRAFT COMMUNICATION FAILURE When a controlled aircraft experiencing complete communication failure is operating or expected to operate in an area and at flight levels where an ATS surveillance service is applied, separation specified in 8.7.3 may continue to be used. However, if the aircraft experiencing the communication failure is not identified, separation shall be applied between identified aircraft and all unidentified aircraft observed along the expected route of the aircraft with the communication failure, until such time as it is known, or can safely be assumed, that the aircraft with radiocommunication failure has passed through the airspace concerned, has landed, or has proceeded elsewhere.	See 8.8.3.1.1. Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.8.3.3	AIRCRAFT TRANSPONDER FAILURE IN AREAS WHERE THE CARRIAGE OF A FUNCTIONING TRANSPONDER IS MANDATORY	
8.8.3.3.1	When an aircraft experiencing transponder failure after departure is operating or expected to operate in an area where the carriage of a functioning transponder with specified capabilities is mandatory, the ATC units concerned should endeavour to provide for continuation of the flight to the aerodrome of first intended landing in accordance with the flight plan. However, in certain traffic situations, either in terminal areas or en-route, continuation of the flight may not be possible, particularly when failure is detected shortly after take-off. The aircraft may then be required to return to the departure aerodrome or to land at the nearest suitable aerodrome acceptable to the operator concerned and to ATC.	The provisions related to SSR Operation are established under SERA Section 13. ATS.TR.160(d)(8) stipulates that the ATS provider has to establish procedures to be applied by the ATS units in case of transponder failure; such procedures have to be compliant with provisions in Section 13 of SERA.
8.8.3.3.2	In case of a transponder failure which is detected before departure from an aerodrome where it is not practicable to effect a repair, the aircraft concerned should be permitted to proceed, as directly as possible, to the nearest suitable aerodrome where repair can be made. When granting clearance to such aircraft, ATC should take into consideration the existing or anticipated traffic situation and may have to modify the time of departure, flight level or route of the intended flight. Subsequent adjustments may become necessary during the course of the flight.	The provisions related to SSR Operation are established under SERA Section 13. ATS.TR.160(d)(8) stipulates that the ATS provider has to establish procedures to be applied by the ATS units in case of transponder failure; such procedures have to be compliant with provisions in Section 13 of SERA.
8.8.4.1	ATS SURVEILLANCE SYSTEM FAILURE In the event of complete failure of the ATS surveillance system where air-ground communications remain, the controller shall plot the positions of all aircraft already identified, take the necessary action to establish procedural separation between the aircraft and, if necessary, limit the number of aircraft permitted to enter the area.	It is transposed as AMC1 ATS.TR.160(d)(7).
8.8.4.2	As an emergency measure, use of flight levels spaced by half the applicable vertical separation minimum may be resorted to temporarily if standard procedural separation cannot be provided immediately.	It is transposed as GM1 ATS.TR.160(d)(7).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.8.5	DEGRADATION OF AIRCRAFT POSITION SOURCE DATA In order to reduce the impact of a degradation of aircraft position source data, for example, a receiver autonomous integrity monitoring (RAIM) outage for GNSS, the appropriate ATS authority shall establish contingency procedures to be followed by control positions and ATC units in the event of data degradation.	It is transposed as GM2 ATS.TR.160(d)(7).
8.8.6.1	GROUND RADIO FAILURE In the event of complete failure of the ground radio equipment used for control, the controller shall, unless able to continue to provide the ATS surveillance service by means of other available communication channels, proceed as follows: a) without delay inform all adjacent control positions or ATC units, as applicable, of the failure; b) apprise such positions or units of the current traffic situation; c) request their assistance, in respect of aircraft which may establish communications with those positions or units, in establishing and maintaining separation between such aircraft; and d) instruct adjacent control positions or ATC units to hold or re-route all controlled flights outside the area of responsibility of the position or ATC unit that has experienced the failure until such time that the provision of normal services can be resumed.	It is transposed as GM2 ATS.OR.135. The provision is identical to Section 15.6.1.1.
8.8.6.2	In order to reduce the impact of complete ground radio equipment failure on the safety of air traffic, the appropriate ATS authority should establish contingency procedures to be followed by control positions and ATC units in the event of such failures. Where feasible and practicable, such contingency procedures should provide for the delegation of control to an adjacent control position or ATC unit in order to permit a minimum level of services to be provided as soon as possible, following the ground radio failure and until normal operations can be resumed.	It is transposed as GM2 ATS.OR.135. The provision is identical to Section 15.6.1.2.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.9	USE OF ATS SURVEILLANCE SYSTEMS IN THE APPROACH CONTROL SERVICE	
8.9.1.1	ATS surveillance systems used in the provision of approach control service shall be appropriate to the functions and level of service to be provided.	Not transposed.
8.9.1.2	ATS surveillance systems used to monitor parallel ILS approaches shall meet the requirements for such operations specified in Chapter 6.	Not transposed.
8.9.2	The position indications presented on a situation display may be used to perform the following additional functions in the provision of approach control service: a) provide vectoring of arriving traffic on to pilot-interpreted final approach aids; b) provide flight path monitoring of parallel ILS approaches and instruct aircraft to take appropriate action in the event of possible or actual penetrations of the no transgression zone (NTZ);	It is transposed as AMC1 ATS.TR.160(a).
8.9.2	*Note.— See Chapter 6, Section 6.7.*	Not transposed.
8.9.2	c) provide vectoring of arriving traffic to a point from which a visual approach can be completed; d) provide vectoring of arriving traffic to a point from which a precision radar approach or a surveillance radar approach can be made; e) provide flight path monitoring of other pilot-interpreted approaches; f) in accordance with prescribed procedures, conduct: i) surveillance radar approaches; ii) precision radar (PAR) approaches; and g) provide separation between:	It is transposed as AMC1 ATS.TR.160(a). Within the SERA regulatory process it has been clarified, in coordination with ICAO Paris Office, that PAR approaches are no longer applicable in the European Civil Aviation context. A new definition of 'Precision Approach' in ICAO Annex 2 is provided, where PAR is not included. Therefore, PAR is to be removed from this text when transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	i) succeeding departing aircraft; ii) succeeding arriving aircraft; and iii) a departing aircraft and a succeeding arriving aircraft.	
8.9.3	GENERAL APPROACH CONTROL PROCEDURES USING ATS SURVEILLANCE SYSTEMS	
8.9.3.1	The appropriate ATS authority shall establish procedures to ensure that the aerodrome controller is kept informed of the sequence of arriving aircraft, as well as any instructions and restrictions which have been issued to such aircraft in order to maintain separation after transfer of control to the aerodrome controller.	Not transposed. The principle is established in ATS.TR.230(b)(2) and (3).
8.9.3.2	Prior to, or upon commencement of, vectoring for approach, the pilot shall be advised of the type of approach as well as the runway to be used.	It is transposed as AMC2 ATS.TR.160(d)(3).
8.9.3.3	The controller shall advise an aircraft being vectored for an instrument approach of its position at least once prior to commencement of final approach.	It is transposed as AMC2 ATS.TR.160(d)(3)
8.9.3.4	When giving distance information, the controller shall specify the point or navigation aid to which the information refers.	It is transposed as AMC2 ATS.TR.160(d)(3).
8.9.3.5	The initial and intermediate approach phases of an approach executed under the direction of a controller comprise those parts of the approach from the time vectoring is initiated for the purpose of positioning the aircraft for a final approach, until the aircraft is on final approach and: a) established on the final approach path of a pilot-interpreted aid; or b) reports that it is able to complete a visual approach; or c) ready to commence a surveillance radar approach; or	It is transposed as GM1 ATS.TR.160(d)(3). Bullet point (d) referring to precision approach radar has been removed (See Section 8.9.2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	d) transferred to the precision radar approach controller.	
8.9.3.6	Aircraft vectored for final approach should be given a heading or a series of headings calculated to close with the final approach track. The final vector shall enable the aircraft to be established on the final approach track prior to intercepting the specified or nominal glide path of the approach procedure from below, and should provide an intercept angle with the final approach track of 45 degrees or less.	It is transposed as AMC2 ATS.TR.160(d)(3). Modifications (modified text) introduced with ICAO AN-WP/9014.
8.9.3.6	*Note.— See Chapter 6, Section 6.7.3.2 and Section 6.7.3.2.3, concerning vectoring and level flight requirements of independent parallel approaches, respectively.*	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
8.9.3.7	Whenever an aircraft is assigned a vector which will take it through the final approach track, it should be advised accordingly, stating the reason for the vector.	It is transposed as AMC2 ATS.TR.160(d)(3).
8.9.4	VECTORING TO PILOT-INTERPRETED FINAL APPROACH AID	
8.9.4.1	An aircraft vectored to intercept a pilot-interpreted final approach aid shall be instructed to report when established on the final approach track. Clearance for the approach should be issued prior to when the aircraft reports established, unless circumstances preclude the issuance of the clearance at such time. Vectoring will normally terminate at the time the aircraft leaves the last assigned heading to intercept the final approach track.	It is transposed as GM1 to AMC2 ATS.TR.160(d)(3).
8.9.4.2	When clearance for the approach is issued, aircraft shall maintain last assigned level until intercepting the specified or nominal glide path of the approach procedure. If ATC requires an aircraft to intercept the glide path at a level other than a level flight segment depicted on the instrument approach chart, ATC shall instruct the pilot to maintain the particular level until established on the glide	It is transposed as GM1 to AMC2 ATS.TR.160(d)(3). Modifications (additional text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	path.	
8.9.4.3	The controller shall be responsible for maintaining separation specified in 8.7.3 between succeeding aircraft on the same final approach, except that the responsibility may be transferred to the aerodrome controller in accordance with procedures prescribed by the appropriate ATS authority and provided an ATS surveillance system is available to the aerodrome controller.	It is transposed as GM1 to AMC2 ATS.TR.160(d)(3). Modifications (modified numbering) introduced with ICAO AN-WP/9014.
8.9.4.4	Transfer of control of succeeding aircraft on final approach to the aerodrome controller shall be effected in accordance with procedures prescribed by the appropriate ATS authority.	Not transposed. Modifications (modified text) introduced with ICAO AN-WP/9014.
8.9.4.5	Transfer of communications to the aerodrome controller should be effected at such a point or time that clearance to land or alternative instructions can be issued to the aircraft in a timely manner.	It is transposed as AMC2 ATS.TR.160(d)(3).
8.9.5	VECTORING FOR VISUAL APPROACH *Note.— See also Chapter 6, Section 6.5.3.*	
8.9.5.1	The controller may initiate vectoring of an aircraft for visual approach provided the reported ceiling is above the minimum altitude applicable to vectoring and meteorological conditions are such that, with reasonable assurance, a visual approach and landing can be completed.	It is transposed as GM2 to AMC2 ATS.TR.160(d)(3).
8.9.5.2	Clearance for visual approach shall be issued only after the pilot has reported the aerodrome or the preceding aircraft in sight, at which time vectoring would normally be terminated.	It is transposed as GM2 to AMC2 ATS.TR.160(d)(3). Variation between the original ICAO provision (the aerodrome or the preceding aircraft in sight) and the transposed GM (contact with the terrain is achieved and can be maintained).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.9.6	RADAR APPROACHES	
8.9.6.1	GENERAL PROVISIONS	
8.9.6.1.1	During the period that a controller is engaged in giving surveillance radar or precision radar approaches, he or she should not be responsible for any duties other than those directly connected with such approaches.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.2	Controllers conducting radar approaches shall be in possession of information regarding the obstacle clearance altitudes/heights established for the types of approach to be conducted.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.3	Prior to commencement of a radar approach, the aircraft shall be informed of: a) the runway to be used; b) the applicable obstacle clearance altitude/height; c) the angle of the nominal glide path and, if so prescribed by the appropriate ATS authority or requested by the aircraft, the approximate rate of descent to be maintained;	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.3	*Note.— See the* Air Traffic Services Planning Manual *(Doc 9426) regarding calculation of approximate rates of descent.*	Not transposed.
8.9.6.1.3	d) the procedure to be followed in the event of radiocommunication failure, unless the procedure has been published in AIPs.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.4	When a radar approach cannot be continued due to any circumstance, the aircraft should be immediately informed that a radar approach or continuation thereof is not possible. The approach should be continued if this is possible using non-radar facilities or if the pilot reports that the approach can be	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	completed visually; otherwise an alternative clearance should be given.	
8.9.6.1.5	Aircraft making a radar approach should be reminded, when on final approach, to check that the wheels are down and locked.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.6	Unless otherwise prescribed by the appropriate ATS authority, the controller conducting the approach should notify the aerodrome controller or, when applicable, the procedural controller when an aircraft making a radar approach is approximately 15 km (8 NM) from touchdown. If landing clearance is not received at this time, a subsequent notification should be made at approximately 8 km (4 NM) from touchdown and landing clearance requested.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.7	Clearance to land or any alternative clearance received from the aerodrome controller or, when applicable, the procedural controller should normally be passed to the aircraft before it reaches a distance of 4 km (2 NM) from touchdown.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.6.1.8	An aircraft making a radar approach should: a) be directed to execute a missed approach in the following circumstances: i) when the aircraft appears to be dangerously positioned on final approach; or ii) for reasons involving traffic conflictions; or iii) if no clearance to land has been received from the procedural controller by the time the aircraft reaches a distance of 4 km (2 NM) from touchdown or such other distance as has been agreed with the aerodrome control tower; or iv) on instructions by the aerodrome controller; or b) be advised to consider executing a missed approach in the following circumstances:	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	i) when the aircraft reaches a position from which it appears that a successful approach cannot be completed; or ii) if the aircraft is not visible on the situation display for any significant interval during the last 4 km (2 NM) of the approach; or iii) if the position or identification of the aircraft is in doubt during any portion of the final approach. In all such cases, the reason for the instruction or the advice should be given to the pilot.	
8.9.6.1.9	Unless otherwise required by exceptional circumstances, radar instructions concerning a missed approach should be in accordance with the prescribed missed approach procedure and should include the level to which the aircraft is to climb and heading instructions to keep the aircraft within the missed approach area during the missed approach procedure.	It is transposed as GM3 to AMC2 ATS.TR.160(d)(3).
8.9.7	FINAL APPROACH PROCEDURES	
8.9.7.1	SURVEILLANCE RADAR APPROACH	
8.9.7.1.1	A final approach using solely surveillance radar should not be carried out if precision approach radar is available, unless meteorological conditions are such as to indicate with reasonable certainty that a surveillance radar approach can be completed successfully.	As the provisions regarding precision radar approach have not been transposed because considered not suitable for the EU context and the given scope, it is not transposed as ATS requirement.
8.9.7.1.2	A surveillance radar approach shall only be performed with equipment suitably sited and a situation display specifically marked to provide information on position relative to the extended centre line of the runway to be used and distance from touchdown, and which is specifically approved for the purpose by the appropriate ATS authority.	It is transposed as GM4 to AMC2 ATS.TR.160(d)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.9.7.1.3	When conducting a surveillance radar approach, the controller shall comply with the following: a) at or before the commencement of the final approach, the aircraft shall be informed of the point at which the surveillance radar approach will be terminated; b) the aircraft shall be informed when it is approaching the point at which it is computed that descent should begin, and just before reaching that point it shall be informed of the obstacle clearance altitude/height and instructed to descend and check the applicable minima; c) azimuth instructions shall be given in accordance with the precision approach technique (see 8.9.7.2.4); d) except as provided in 8.9.7.1.4, distance from touchdown shall normally be passed at every 2 km (each NM); e) pre-computed levels through which the aircraft should be passing to maintain the glide path shall also be transmitted at every 2 km (each NM) at the same time as the distance; f) the surveillance radar approach shall be terminated: i) at a distance of 4 km (2 NM) from touchdown, except as provided in 8.9.7.1.4; or ii) before the aircraft enters an area of continuous radar clutter; or iii) when the pilot reports that a visual approach can be effected; whichever is the earliest.	It is transposed as GM4 to AMC2 ATS.TR.160(d)(3).
8.9.7.1.4	When, as determined by the appropriate ATS authority, the accuracy of the radar equipment permits, surveillance radar approaches may be continued to the threshold of the runway, or to a prescribed point less than 4 km (2 NM) from touchdown, in which case:	It is transposed as GM4 to AMC2 ATS.TR.160(d)(3).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	a) distance and level information shall be given at each km (each half NM); b) transmission should not be interrupted for intervals of more than five seconds while the aircraft is within a distance of 8 km (4 NM) from touchdown; c) the controller should not be responsible for any duties other than those directly connected with a particular approach.	
8.9.7.1.5	Levels through which the aircraft should pass to maintain the required glide path, and the associated distances from touchdown, shall be pre-computed and displayed in such a manner as to be readily available to the controller concerned.	It is transposed as GM4 to AMC2 ATS.TR.160(d)(3).
8.9.7.1.5	*Note.— See the* Air Traffic Services Planning Manual *(Doc 9426) regarding pre-computation of levels.*	
8.9.7.2	PRECISION RADAR APPROACH	All Section 8.9.7.2 is not transposed. See Section 8.9.2.
8.9.7.2.1	DUTIES OF PRECISION APPROACH CONTROLLER During the period the controller is engaged in giving a precision approach, the controller should not be responsible for any duties other than those directly connected with that particular approach.	Not transposed.
8.9.7.2.2	TRANSFER OF CONTROL Aircraft to be provided with a precision radar approach shall have been transferred to the controller in charge of the precision approach at a distance of not less than 2 km (1 NM) from the point of interception of the glide path, unless otherwise provided by the appropriate ATS authority.	Not transposed.
8.9.7.2.3	COMMUNICATIONS When control of the aircraft is assumed by the controller in charge of the precision approach, a communications check shall be made on the channel to be	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	used during the precision approach and the pilot shall be advised that no further acknowledgement of transmission is required. Thereafter, transmission should not be interrupted for intervals of more than five seconds while the aircraft is on final approach.	
8.9.7.2.4	AZIMUTH INFORMATION AND CORRECTIONS	
8.9.7.2.4.1	The pilot shall be informed at regular intervals of the aircraft's position in relation to the extended centre line of the runway. Heading corrections shall be given as necessary to bring the aircraft back on to the extended centre line.	Not transposed.
8.9.7.2.4.2	In the case of azimuth deviations, the pilot should not take corrective action unless specifically instructed to do so.	Not transposed.
8.9.7.2.5	ELEVATION INFORMATION AND ADJUSTMENTS	
8.9.7.2.5.1	The aircraft shall be informed when it is approaching the point of interception of the glide path and, just before intercepting the glide path, it shall be instructed to begin its descent and to check the applicable decision altitude/height. Thereafter, the aircraft shall be informed at regular intervals of its position in relation to the glide path. When no corrections are required, the aircraft should be informed at regular intervals that it is on the glide path. Deviations from the glide path shall be given to the aircraft, together with instructions to adjust the rate of descent if the corrective action taken by the aircraft does not appear to be sufficient. The aircraft shall be informed when it starts to regain the glide path, and immediately before it reaches the glide path.	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
8.9.7.2.5.2	In the case of deviations from the glide path, the pilot should take corrective action on the basis of the information given by the controller, even though not specifically instructed to do so.	Not transposed.
8.9.7.2.5.3	Prior to the aircraft reaching a point 4 km (2 NM) from touchdown, or a greater distance as necessary for faster aircraft, a certain degree of tolerance should be allowed with regard to deviations from the glide path, and elevation information need not specify the actual number of metres (or feet) above or below the glide path unless it is required to emphasize the rate of change or the extent of the displacement. Thereafter, any deviations from the glide path should be given to the aircraft, preferably in terms of specific distances (metres or feet) above or below the glide path. The use of emphasis in the manner in which the information is transmitted should normally be sufficient to expedite action by the pilot when necessary (e.g. "*STILL* 20 metres (60 feet) too low").	Not transposed.
8.9.7.2.5.4	Should the elevation element fail during a precision radar approach, the controller shall inform the aircraft immediately. If possible, the controller shall change to a surveillance radar approach, informing the aircraft of the revised obstacle clearance altitude/height. Alternatively, instructions should be given for a missed approach.	Not transposed.
8.9.7.2.6	DISTANCE INFORMATION The distance from touchdown should be transmitted at intervals of 2 km (1 NM) until the aircraft reaches a distance of 8 km (4 NM) from touchdown. Thereafter distance information should be transmitted at more frequent intervals, priority being given, however, to the provision of azimuth and elevation information and guidance.	Not transposed.
8.9.7.2.7	TERMINATION OF A PRECISION RADAR APPROACH A precision radar approach is terminated when the aircraft reaches the point at which the glide path intercepts the obstacle clearance altitude/height. Nevertheless, information shall continue to be given until the aircraft is over the threshold, or at such distance therefrom as may be specified by the appropriate	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	ATS authority, taking into account the capability of the equipment concerned. The approach may be monitored to touchdown and information may continue to be provided as necessary at the discretion of the controller in charge of the precision approach in which case the aircraft shall be informed when it is over the threshold.	
8.9.7.2.8	MISSED APPROACHES When information provided by the elevation element indicates that the aircraft may be initiating a missed approach, the controller shall take the following action: a) when there is sufficient time to obtain a reply from the pilot (e.g. when the aircraft is more than 4 km (2 NM) from touchdown), the controller shall transmit the aircraft's height above the glide path and ask if the pilot intends to make a missed approach. If this is confirmed by the pilot, the controller shall pass missed approach instructions (see 8.9.6.1.8); b) when there is not sufficient time to obtain a reply from the pilot (e.g. when the aircraft is at 4 km (2 NM) or less from touchdown), the precision approach should be continued, emphasizing the aircraft's displacement, and terminated at the normal termination point. If it is apparent from elevation information that the aircraft is making a missed approach, either before or after the normal termination point, the controller shall pass missed approach instructions (see 8.9.6.1.8).	Not transposed.
8.10	USE OF ATS SURVEILLANCE SYSTEMS IN THE AERODROME CONTROL SERVICE	
8.10.1.1	FUNCTIONS When authorized by and subject to conditions prescribed by the appropriate ATS authority, ATS surveillance systems may be used in the provision of aerodrome control service to perform the following functions: a) flight path monitoring of aircraft on final approach;	It is transposed as AMC1 ATS.TR.160(a). It includes the proposed changes agreed at ICAO EANPG #56.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) flight path monitoring of other aircraft in the vicinity of the aerodrome; c) establishing separation specified in 8.7.3 between succeeding departing aircraft; and d) providing navigation assistance to VFR flights.	
8.10.1.2	Special VFR flights shall not be vectored unless special circumstances, such as emergencies, dictate otherwise.	It is transposed as AMC1 ATS.TR.160(d)(3).
8.10.1.3	Caution shall be exercised when vectoring VFR flights so as to ensure that the aircraft concerned does not inadvertently enter instrument meteorological conditions.	It is transposed as GM1 to AMC1 ATS.TR.160(d)(3).
8.10.1.4	In prescribing conditions and procedures for the use of ATS surveillance systems in the provision of aerodrome control service, the appropriate ATS authority shall ensure that the availability and use of an ATS surveillance system will not be detrimental to visual observation of aerodrome traffic.	It is transposed as AMC1 ATS.TR.160(a).
8.10.1.4	*Note.— Control of aerodrome traffic is in the main based on visual observation of the manoeuvring area and the vicinity of the aerodrome by the aerodrome controller.*	Not transposed.
8.10.2	USE OF ATS SURVEILLANCE SYSTEMS FOR SURFACE MOVEMENT CONTROL *Note.— Requirements concerning surface movement guidance and control systems (SMGCS) are contained in Annex 14, Volume I, Chapter 9. Guidance on the use of surface movement radar (SMR) and other advanced functions is contained in the* Manual of Surface Movement Guidance and Control Systems (SMGCS) *(Doc 9476) and in the* Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual *(Doc 9830).*	Not transposed.
8.10.2.1.1	The use of SMR should be related to the operational conditions and requirements of the particular aerodrome (i.e. visibility conditions, traffic	Not transposed. The principle is covered by ATS.TR.245.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	density and aerodrome layout).	
8.10.2.1.2	SMR systems shall to the extent possible enable the detection and display of the movement of all aircraft and vehicles on the manoeuvring area in a clear and unambiguous manner.	Not transposed.
8.10.2.1.3	Aircraft and vehicle position indications may be displayed in symbolic or non-symbolic form. Where labels are available for display, the capability should be provided for inclusion of aircraft and vehicle identification by manual or automated means.	Not transposed.
8.10.2.2	FUNCTIONS	
8.10.2.2.1	SMR should be used to augment visual observation of traffic on the manoeuvring area and to provide surveillance of traffic on those parts of the manoeuvring area which cannot be observed visually.	Not transposed. The principle is covered by ATS.TR.245.
8.10.2.2.2	The information displayed on an SMR display may be used to assist in: a) monitoring of aircraft and vehicles on the manoeuvring area for compliance with clearances and instructions; b) determining that a runway is clear of traffic prior to a landing or take-off; c) providing information on essential local traffic on or near the manoeuvring area; d) determining the location of aircraft and vehicles on the manoeuvring area; e) providing directional taxi information to aircraft when requested by the pilot or deemed necessary by the controller. Except under special circumstances, e.g. emergencies, such information should not be issued in the form of specific heading instructions; and	It is transposed as GM1 ATS.TR.245.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	f) providing assistance and advice to emergency vehicles.	
8.10.2.3	IDENTIFICATION OF AIRCRAFT Where an ATS surveillance system is used, aircraft may be identified by one or more of the following procedures: a) by correlating a particular position indication with: i) an aircraft position visually observed by the controller; ii) an aircraft position reported by the pilot; or iii) an identified position indication displayed on a situation display; b) by transfer of identification when authorized by the appropriate ATS authority; and c) by automated identification procedures when authorized by the appropriate ATS authority.	It is transposed as AMC2 ATS.TR.160(d)(1).
8.11	USE OF ATS SURVEILLANCE SYSTEMS IN THE FLIGHT INFORMATION SERVICE	
8.11	*Note.— The use of an ATS surveillance system in the provision of flight information service does not relieve the pilot-in-command of an aircraft of any responsibilities, including the final decision regarding any suggested alteration of the flight plan.*	Not to be transposed as ATS requirements. To be considered by SERA.
8.11.1	The information presented on a situation display may be used to provide identified aircraft with: a) information regarding any aircraft observed to be on a conflicting path with the identified aircraft and suggestions or advice regarding avoiding action; b) information on the position of significant weather and, as practicable, advice to the aircraft on how best to circumnavigate any such areas of adverse weather	It is transposed as AMC1 ATS.TR.160(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	(see 8.6.9.2, Note); c) information to assist the aircraft in its navigation.	
9	FLIGHT INFORMATION SERVICE AND ALERTING SERVICE	
9.1	FLIGHT INFORMATION SERVICE	
9.1.1	RECORDING AND TRANSMISSION OF INFORMATION ON THE PROGRESS OF FLIGHTS Information on the actual progress of flights, including those of heavy or medium unmanned free balloons, under neither air traffic control service nor air traffic advisory service shall be: a) recorded by the air traffic services unit serving the FIR within which the aircraft is flying in such a manner that it is available for reference and in case it is requested for search and rescue action; b) transmitted by the air traffic services unit receiving the information to other air traffic services units concerned, when so required in accordance with Chapter 10, 10.2.2.	It is transposed as AMC1 ATS.TR.300(c)(1).
9.1.2	TRANSFER OF RESPONSIBILITY FOR THE PROVISION OF FLIGHT INFORMATION SERVICE The responsibility for the provision of flight information service to a flight normally passes from the appropriate ATS unit in an FIR to the appropriate ATS unit in the adjacent FIR at the time of crossing the common FIR boundary. However, when coordination is required in accordance with Chapter 10, 10.2, but communication facilities are inadequate, the former ATS unit shall, as far as practicable, continue to provide flight information service to the flight until it has established two-way communication with the appropriate ATS unit in the FIR it is entering.	It is transposed as AMC1 ATS.TR.300(c)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
9.1.3.1	TRANSMISSION OF INFORMATION	
9.1.3.1.1	MEANS OF TRANSMISSION Except as provided in 9.1.3.2.1, information shall be disseminated to aircraft by one or more of the following means as determined by the appropriate ATS authority: a) the preferred method of directed transmission on the initiative of the appropriate ATS unit to an aircraft, ensuring that receipt is acknowledged; or b) a general call, unacknowledged transmission to all aircraft concerned; or c) broadcast; or d) data link.	It is transposed as AMC1 ATS.TR.305.
9.1.3.1.1	*Note.— It should be recognized that in certain circumstances, e.g. during the last stages of a final approach, it may be impracticable for aircraft to acknowledge directed transmissions.*	Not transposed.
9.1.3.1.2	The use of general calls shall be limited to cases where it is necessary to disseminate essential information to several aircraft without delay, e.g. the sudden occurrence of hazards, a change of the runway-in-use, or the failure of a key approach and landing aid.	It is transposed as AMC1 ATS.TR.305.
9.1.3.2.1	TRANSMISSION OF SPECIAL AIR-REPORTS, SIGMET AND AIRMET INFORMATION Appropriate SIGMET and AIRMET information, as well as special air-reports which have not been used for the preparation of a SIGMET, shall be disseminated to aircraft by one or more of the means specified in 9.1.3.1.1 as determined on the basis of regional air navigation agreements. Special air-reports shall be disseminated to aircraft for a period of 60 minutes after their issuance.	It is transposed as AMC1 ATS.TR.305.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
9.1.3.2.2	The special air-report, SIGMET and AIRMET information to be passed to aircraft on ground initiative should cover a portion of the route up to one hour's flying time ahead of the aircraft except when another period has been determined on the basis of regional air navigation agreements.	It is transposed as AMC1 ATS.TR.305.
9.1.3.3	TRANSMISSION OF INFORMATION CONCERNING VOLCANIC ACTIVITY Information concerning pre-eruption volcanic activity, volcanic eruptions and volcanic ash clouds (position of clouds and flight levels affected) shall be disseminated to aircraft by one or more of the means specified in 9.1.3.1.1 as determined on the basis of regional air navigation agreements.	It is transposed as AMC1 ATS.TR.305.
9.1.3.4	TRANSMISSION OF INFORMATION CONCERNING RADIOACTIVE MATERIALS AND TOXIC CHEMICAL CLOUDS Information on the release into the atmosphere of radioactive materials or toxic chemicals which could affect airspace within the area of responsibility of the ATS unit shall be transmitted to aircraft by one or more of the means specified in 9.1.3.1.1.	It is transposed as AMC1 ATS.TR.305.
9.1.3.5.1	TRANSMISSION OF SPECI AND AMENDED TAF Special reports in the SPECI code form and amended TAF shall be transmitted on request and supplemented by: a) directed transmission from the appropriate air traffic services unit of selected special reports and amended TAF for the departure, destination and its alternate aerodromes, as listed in the flight plan; or b) a general call on appropriate frequencies for the unacknowledged transmission to affected aircraft of selected special reports and amended TAF; or c) continuous or frequent broadcast or the use of data link to make available current METAR and TAF in areas determined on the basis of regional air navigation agreements where traffic congestion dictates. VOLMET broadcasts	It is transposed as AMC1 ATS.TR.305.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	and/or D-VOLMET should be used to serve this purpose (see Annex 11, 4.4).	
9.1.3.5.2	The passing of amended aerodrome forecasts to aircraft on the initiative of the appropriate air traffic services unit should be limited to that portion of the flight where the aircraft is within a specified time from the aerodrome of destination, such time being established on the basis of regional air navigation agreements.	It is transposed as AMC1 ATS.TR.305.
9.1.3.6	TRANSMISSION OF INFORMATION ON HEAVY OR MEDIUM UNMANNED FREE BALLOONS Appropriate information on heavy or medium unmanned free balloons shall be disseminated to aircraft by one or more of the means specified in 9.1.3.1.1.	It is transposed as AMC1 ATS.TR.305.
9.1.3.7	TRANSMISSION OF INFORMATION TO SUPERSONIC AIRCRAFT The following information shall be available at appropriate ACCs or flight information centres for aerodromes determined on the basis of regional air navigation agreements and shall be transmitted on request to supersonic aircraft prior to commencement of deceleration/descent from supersonic cruise: a) current meteorological reports and forecasts, except that where communications difficulties are encountered under conditions of poor propagation, the elements transmitted may be limited to: i) mean surface wind, direction and speed (including gusts); ii) visibility or runway visual range; iii) amount and height of base of low clouds; iv) other significant information; v) if appropriate, information regarding expected changes; b) operationally significant information on the status of facilities relating to the runway-in-use, including the precision approach category in the event that the lowest approach category promulgated for the runway is not available;	It is transposed as AMC1 ATS.TR.305.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	c) sufficient information on the runway surface conditions to permit assessment of the runway braking action.	
9.1.4	AIR TRAFFIC ADVISORY SERVICE	
9.1.4.1	OBJECTIVE AND BASIC PRINCIPLES	
9.1.4.1.1	The objective of the air traffic advisory service is to make information on collision hazards more effective than it would be in the mere provision of flight information service. It may be provided to aircraft conducting IFR flights in advisory airspace or on advisory routes (Class F airspace). Such areas or routes will be specified by the State concerned.	The first sentence is transposed as AMC1 ATS.TR.105(b). The second sentence is transposed as GM1 ATS.TR.105(b).
9.1.4.1.2	Taking into account the considerations detailed in 2.4 of Annex 11, air traffic advisory service should only be implemented where the air traffic services are inadequate for the provision of air traffic control, and the limited advice on collision hazards otherwise provided by flight information service will not meet the requirement. Where air traffic advisory service is implemented, this should be considered normally as a temporary measure only until such time as it can be replaced by air traffic control service.	It is transposed as AMC1 ATS.TR.105(b). Transposed also as AMC1 SERA.6001(h).
9.1.4.1.3	Air traffic advisory service does not afford the degree of safety and cannot assume the same responsibilities as air traffic control service in respect of the avoidance of collisions, since information regarding the disposition of traffic in the area concerned available to the unit providing air traffic advisory service may be incomplete. To make this quite clear, air traffic advisory service does not deliver “clearances” but only “advisory information” and it uses the word “advise” or “suggest” when a course of action is proposed to an aircraft.	The first sentence is transposed as GM1 ATS.TR.105(b). Transposed also as GM1 SERA.14090(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
9.1.4.1.3	*Note.— See 9.1.4.2.2.*	Not transposed.
9.1.4.2	AIRCRAFT	
9.1.4.2.1	IFR flights electing to use or required by the appropriate ATS authority on the basis of regional air navigation agreements to use the air traffic advisory service when operating within Class F airspace are expected to comply with the same procedures as those applying to controlled flights except that: a) the flight plan and changes thereto are not subjected to a clearance, since the unit furnishing air traffic advisory service will only provide advice on the presence of essential traffic or suggestions as to a possible course of action;	Not transposed. It is to be considered for transposition by SERA.
9.1.4.2.1	*Note 1.— It is assumed that a pilot will not effect a change in the current flight plan until he or she has notified the intended change to the appropriate ATS unit and, if practicable, has received acknowledgement or relevant advice.*	Not transposed. It is to be considered for transposition by SERA.
9.1.4.2.1	*Note 2.— When a flight is operating or about to operate in a control area to continue eventually into an advisory area or along an advisory route, a clearance may be issued for the whole route, but the clearance as such, or revisions thereto, applies only to those portions of the flight conducted within control areas and control zones (3.7.4.4 of Annex 11). Advice or suggestions would be provided as necessary for the remaining portion of the route.*	Not transposed. It is to be considered for transposition by SERA.
9.1.4.2.1	b) it is for the aircraft to decide whether or not it will comply with the advice or suggestion received and to inform the unit providing air traffic advisory service, without delay, of its decision; c) air-ground contacts shall be made with the air traffic services unit designated to provide air traffic advisory service within the advisory airspace or portion thereof.	Not transposed. It is to be considered for transposition by SERA.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
9.1.4.2.1	*Note.— See Chapter 4, 4.4.2, for procedures governing submission of a flight plan.*	Not transposed.
9.1.4.2.2.1	Aircraft wishing to conduct IFR flights within advisory airspace, but not electing to use the air traffic advisory service, shall nevertheless submit a flight plan, and notify changes made thereto to the unit providing that service.	Not transposed. It is to be considered for transposition by SERA.
9.1.4.2.2.1	*Note.— See Chapter 4, 4.4.2, for procedures governing submission of a flight plan.*	
9.1.4.2.2.2	AIRCRAFT NOT USING THE AIR TRAFFIC ADVISORY SERVICE IFR flights intending to cross an advisory route should do so as nearly as possible at an angle of 90 degrees to the direction of the route and at a level, appropriate to its track, selected from the tables of cruising levels prescribed for use by IFR flights operating outside controlled airspace.	Not transposed. It is to be considered for transposition by SERA.
9.1.4.3	AIR TRAFFIC SERVICES UNITS	
9.1.4.3	*Note.— The efficiency of air traffic advisory service will depend largely on the procedures and practices in use. Its establishment in line with the organization, procedures and equipment of area control service, taking into account the basic* *differences of the two services, as indicated in 9.1.4.2.1, will help to ensure a high degree of efficiency and promote uniformity in the various provisions of air traffic advisory service. For example, exchange of information by the units* *concerned on the progress of an aircraft from one advisory area into an adjacent control area or terminal control area, and vice versa, will help to relieve pilots from repeating details of their flight plans already filed; also, use of standard air traffic control phraseology, preceded by the word* "suggest" *or* "advise"*, will facilitate the pilot's understanding of air traffic advisory service intelligence.*	It is transposed as GM1 ATS.TR.105(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
9.1.4.3.1	An air traffic services unit providing air traffic advisory service shall: a) *advise* the aircraft to depart at the time specified and to cruise at the levels indicated in the flight plan if it does not foresee any conflict with other known traffic; b) *suggest* to aircraft a course of action by which a potential hazard may be avoided, giving priority to an aircraft already in advisory airspace over other aircraft desiring to enter such advisory airspace; and c) *pass* to aircraft traffic information comprising the same information as that prescribed for area control service.	It is transposed as GM1 ATS.TR.105(b). Transposed as also as GM1 SERA.14090(b).
9.1.4.3.2	The criteria used as a basis for action under b) and c) above should be at least those laid down for aircraft operating in controlled airspace and should take into account the limitations inherent in the provision of air traffic advisory service, navigation facilities and air-ground communications prevailing in the region.	It is transposed as GM1 ATS.TR.105(b).
9.2	ALERTING SERVICE	
9.2.1	AIRCRAFT *Note.— Whenever applied, the procedures for the provision of air traffic control service or air traffic advisory service take the place of the following procedures, except when relevant procedures do not call for more than hourly position reports, in which case the* Operations normal *procedure applies.*	Not transposed. It is to be considered for transposition by SERA.
9.2.1.1	When so required by the appropriate ATS authority to facilitate the provision of alerting and search and rescue services, an aircraft, prior to and when operating within or into designated areas or along designated routes, shall comply with the provisions detailed in Annex 2, Chapter 3, concerning the submission, completion, changing and closing of a flight plan.	Not transposed. It is to be considered for transposition by SERA.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
9.2.1.2	In addition to the above, aircraft equipped with suitable two-way radiocommunications shall report during the period twenty to forty minutes following the time of last contact, whatever the purpose of such contact, merely to indicate that the flight is progressing according to plan, such report to comprise identification of the aircraft and the words "Operations normal" or the signal QRU.	Not transposed It is to be considered for transposition by SERA.
9.2.1.3	The "Operations normal" message shall be transmitted air-ground to an appropriate air traffic services unit (e.g. normally to the aeronautical telecommunication station serving the air traffic services unit in charge of the FIR in which the aircraft is flying, otherwise to another aeronautical telecommunication station to be retransmitted as required to the air traffic services unit in charge of the FIR).	Not transposed. It is to be considered for transposition by SERA.
9.2.1.4	It may be advisable, in case of a SAR operation of a substantial duration, to promulgate by NOTAM the lateral and vertical limits of the area of SAR action, and to warn aircraft not engaged in actual SAR operations and not controlled by air traffic control to avoid such areas unless otherwise authorized by the appropriate ATS unit.	Not transposed. It is to be considered for transposition by SERA.
9.2.2	AIR TRAFFIC SERVICES UNITS	
9.2.2.1	When no report from an aircraft has been received within a reasonable period of time (which may be a specified interval prescribed on the basis of regional air navigation agreements) after a scheduled or expected reporting time, the ATS unit shall, within the stipulated period of thirty minutes, endeavour to obtain such report in order to be in a position to apply the provisions relevant to the "Uncertainty Phase" (Annex 11, 5.2.1 refers) should circumstances warrant such application.	It is transposed as GM1 ATS.TR.405(a)(1).
9.2.2.2	When alerting service is required in respect of a flight operated through more than one FIR or control area, and when the position of the aircraft is in doubt, responsibility for coordinating such service shall rest with the ATS unit of the	It is transposed as GM1 ATS.TR.400(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	FIR or control area: a) within which the aircraft was flying at the time of last air-ground radio contact; b) that the aircraft was about to enter when last air-ground contact was established at or close to the boundary of two FIRs or control areas; c) within which the aircraft's intermediate stop or final destination point is located: 1) if the aircraft was not equipped with suitable two-way radiocommunication equipment; or 2) was not under obligation to transmit position reports.	
9.2.2.3	The unit responsible for alerting service, in accordance with 9.2.2.2, shall: a) notify units providing alerting service in other affected FIRs or control areas of the emergency phase or phases, in addition to notifying the rescue coordination centre associated with it; b) request those units to assist in the search for any useful information pertaining to the aircraft presumed to be in an emergency, by all appropriate means and especially those indicated in 5.3 of Annex 11 (Use of communication facilities); c) collect the information gathered during each phase of the emergency and, after verifying it as necessary, transmit it to the rescue coordination centre; d) announce the termination of the state of emergency as circumstances dictate.	It is transposed as GM1 ATS.TR.400(b).
9.2.2.4	In obtaining the necessary information as required under 5.2.2.1 of Annex 11, attention shall particularly be given to informing the relevant rescue coordination centre of the distress frequencies available to survivors, as listed in Item 19 of the flight plan but not normally transmitted.	It is transposed as GM1 ATS.TR.400(b).
10	COORDINATION	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1	COORDINATION IN RESPECT OF THE PROVISION OF AIR TRAFFIC CONTROL SERVICE	
10.1.1.1	GENERAL The coordination and transfer of control of a flight between successive ATC units and control sectors shall be effected by a dialogue comprising the following stages: a) notification of the flight in order to prepare for coordination, as necessary; b) coordination of conditions of transfer of control by the transferring ATC unit; c) coordination, if necessary, and acceptance of conditions of transfer of control by the accepting ATC unit; and d) the transfer of control to the accepting ATC unit or control sector.	It is transposed as GM1 ATS.TR.230.
10.1.1.2	ATC units should, to the extent possible, establish and apply standardized procedures for the coordination and transfer of control of flights, in order, *inter alia*, to reduce the need for verbal coordination. Such coordination procedures shall conform to the procedures contained in the following provisions and be specified in letters of agreement and local instructions, as applicable.	It is transposed as GM1 ATS.TR.230.
10.1.1.3	Such agreements and instructions shall cover the following as applicable: a) definition of areas of responsibility and common interest, airspace structure and airspace classification(s); b) any delegation of responsibility for the provision of ATS; c) procedures for the exchange of flight plan and control data, including use of automated and/or verbal coordination messages; d) means of communication; e) requirements and procedures for approval requests; f) significant points, levels or times for transfer of control;	It is transposed as AMC1 ATS.TR.230.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	g) significant points, levels or times for transfer of communication; h) conditions applicable to the transfer and acceptance of control, such as specified altitudes/flight levels, specific separation minima or spacing to be established at the time of transfer, and the use of automation; i) ATS surveillance system coordination procedures; j) SSR code assignment procedures; k) procedures for departing traffic; l) designated holding fixes and procedures for arriving traffic; m) applicable contingency procedures; and n) any other provisions or information relevant to the coordination and transfer of control of flights.	
10.1.2	COORDINATION BETWEEN ATC UNITS PROVIDING AIR TRAFFIC SERVICE WITHIN CONTIGUOUS CONTROL AREAS	
10.1.2.1.1	GENERAL ATC units shall forward from unit to unit, as the flight progresses, necessary flight plan and control information. When so required by agreement between the appropriate ATS authorities to assist in the separation of aircraft, flight plan and flight progress information for flights along specified routes or portions of routes in close proximity to flight information region boundaries shall also be provided to the ATC units in charge of the flight information regions adjacent to such routes or portions of routes.	It is transposed as AMC1 ATS.TR.230(b)(2).
10.1.2.1.1	*Note 1.— Such a route or portion of route is often referred to as an area of common interest, the extent of which is usually determined by the required separation minima.*	Not transposed.
10.1.2.1.1	*Note 2.— See also 10.2.4.*	Not transposed.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1.2.1.2	The flight plan and control information shall be transmitted in sufficient time to permit reception and analysis of the data by the receiving unit(s) and necessary coordination between the units concerned.	It is transposed as AMC1 ATS.TR.230(b)(2).
10.1.2.1.2	*Note.— See Chapter 11 and Appendices 3 and 6 for details regarding messages, their content and time of transmission.*	Not transposed.
10.1.2	COORDINATION BETWEEN ATC UNITS PROVIDING AIR TRAFFIC SERVICE WITHIN CONTIGUOUS CONTROL AREAS	
10.1.2.2.1	The responsibility for the control of an aircraft shall be transferred from the ATC unit to the next unit at the time of crossing the common control area boundary as determined by the unit having control of the aircraft or at such other point or time as has been agreed between the two units.	It is transposed as AMC1 ATS.TR.230(a).
10.1.2.2.2	Where specified in letters of agreement between the ATC units concerned, and when transferring an aircraft, the transferring unit shall notify the accepting unit that the aircraft is in position to be transferred, and specify that the responsibility for control should be assumed by the accepting unit forthwith at the time of crossing the control boundary or other transfer control point specified in letters of agreement between the ATC units or at such other point or time coordinated between the two units.	It is transposed as AMC1 ATS.TR.230(a).
10.1.2.2.3	If the transfer of control time or point is other than forthwith, the accepting ATC unit shall not alter the clearance of the aircraft prior to the agreed transfer of control time or point without the approval of the transferring unit.	It is transposed as AMC1 ATS.TR.230(a).
10.1.2.2.4	If transfer of communication is used to transfer an aircraft to a receiving ATC unit, responsibility for control shall not be assumed until the time of crossing the control area boundary or other transfer of control point specified in letters of agreement between the ATC units.	It is transposed as AMC1 ATS.TR.230(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1.2.2.5	When transfer of control of identified aircraft is to be effected, the appropriate procedures specified in Chapter 8, Section 8.7.4, shall be applied.	Not transposed.
10.1.2.3	APPROVAL REQUESTS	
10.1.2.3.1	If the flying time from the departure aerodrome of an aircraft to the boundary of an adjacent control area is less than the specified minimum required to permit transmission of the necessary flight plan and control information to the accepting ATC unit after take-off and allow adequate time for reception, analysis and coordination, the transferring ATC unit shall, prior to departure, forward that information to the accepting ATC unit together with a request for approval. The required time period shall be specified in letters of agreement or local instructions, as appropriate. In the case of revisions to a previously transmitted current flight plan, and control data being transmitted earlier than this specified time period, no approval from the accepting ATC unit shall be required.	It is transposed as GM1 ATS.TR.230(b)(2).
10.1.2.3.2	In the case of an aircraft in flight requiring an initial clearance when the flying time to the boundary of an adjacent control area is less than a specified minimum, the aircraft shall be held within the transferring ATC unit's control area until the flight plan and control information have been forwarded together with a request for approval, and coordination effected, with the adjacent ATC unit.	It is transposed as GM1 ATS.TR.230(b)(2).
10.1.2.3.3	In the case of an aircraft requesting a change in its current flight plan, or of a transferring ATC unit proposing to change the current flight plan of an aircraft, and the flying time of the aircraft to the control area boundary is less than a specified minimum, the revised clearance shall be withheld pending approval of the proposal by the adjacent ATC unit.	It is transposed as GM1 ATS.TR.230(b)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1.2.3.4	When boundary estimate data are to be transmitted for approval by the accepting unit, the time in respect of an aircraft not yet departed shall be based upon the estimated time of departure as determined by the ATC unit in whose area of responsibility the departure aerodrome is located. In respect of an aircraft in flight requiring an initial clearance, the time shall be based on the estimated elapsed time from the holding fix to the boundary plus the time expected to be needed for coordination.	It is transposed as GM1 ATS.TR.230(b)(2).
10.1.2.3.5	The conditions, including specified flying times, under which approval requests shall be forwarded, shall be specified in letters of agreement or local instructions as appropriate.	Not transposed. The principle is covered by ATS.OR.150(a).
10.1.2.4	TRANSFER OF COMMUNICATION	
10.1.2.4.1	Except when separation minima specified in 8.7.3 are being applied, the transfer of air-ground communications of an aircraft from the transferring to the accepting ATC unit shall be made five minutes before the time at which the aircraft is estimated to reach the common control area boundary, unless otherwise agreed between the two ATC units concerned.	It is transposed as GM1 ATS.OR.150(b).
10.1.2.4.2	When separation minima specified in 8.7.3 are being applied at the time of transfer of control, the transfer of air-ground communications of an aircraft from the transferring to the accepting ATC unit shall be made immediately after the accepting ATC unit has agreed to assume control.	It is transposed as GM1 ATS.OR.150(b).
10.1.2.4.3	The accepting ATC unit shall normally not be required to notify the transferring unit that radio and/or data communication has been established with the aircraft being transferred and that control of the aircraft has been assumed, unless otherwise specified by agreement between the ATC units concerned. The accepting ATC unit shall notify the transferring unit in the event that communication with the aircraft is not established as expected.	The first sentence is not transposed as its content is covered by ATS.TR.230(b)(6). The second sentence is transposed as GM1 ATS.OR.150(b).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1.2.4.4	In cases where a portion of a control area is so situated that the time taken by aircraft to traverse it is of a limited duration, agreement should be reached to provide for direct transfer of communication between the units responsible for the adjacent control areas, provided that the intermediate unit is fully informed of such traffic. The intermediate unit shall retain responsibility for coordination and for ensuring that separation is maintained between all traffic within its area of responsibility.	It is transposed as GM1 ATS.OR.150(b).
10.1.2.4.5	An aircraft may be permitted to communicate temporarily with a control unit other than the unit controlling the aircraft.	It is transposed as GM1 ATS.OR.150(b).
10.1.2.5	TERMINATION OF CONTROLLED FLIGHT In the case where a flight ceases to be operated as a controlled flight, i.e. by leaving controlled airspace or by cancelling its IFR flight and proceeding on VFR in airspace where VFR flights are not controlled, the ATC unit concerned shall ensure that appropriate information on the flight is forwarded to ATS unit(s) responsible for the provision of flight information and alerting services for the remaining portion of the flight, in order to ensure that such services will be provided to the aircraft.	It is transposed as GM1 ATS.TR.300(c)(2).
10.1.3.	COORDINATION BETWEEN A UNIT PROVIDING AREA CONTROL SERVICE AND A UNIT PROVIDING APPROACH CONTROL SERVICE	
10.1.3.1.1	DIVISION OF CONTROL Except when otherwise specified in letters of agreement or local instructions, or by the ACC concerned in individual cases, a unit providing approach control service may issue clearances to any aircraft released to it by an ACC without reference to the ACC. However, when an approach has been missed the ACC shall, if affected by the missed approach, be advised immediately and subsequent action coordinated between the ACC and the unit providing approach control service as necessary.	It is transposed as GM1 ATS.TR.230(a)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1.3.1.2	An ACC may, after coordination with the unit providing approach control service, release aircraft directly to aerodrome control towers if the entire approach will be made under visual meteorological conditions.	It is transposed as GM1 ATS.TR.230(a)(2).
10.1.3.2.1	TAKE-OFF AND CLEARANCE EXPIRY TIMES Time of take-off shall be specified by the ACC when it is necessary to: a) coordinate the departure with traffic not released to the unit providing approach control service; and b) provide en-route separation between departing aircraft following the same track.	It is transposed as GM2 ATS.TR.230(b)(2).
10.1.3.2.2	If time of take-off is not specified, the unit providing approach control service shall determine the take-off time when necessary to coordinate the departure with traffic released to it.	It is transposed as GM2 ATS.TR.230(b)(2).
10.1.3.2.3	A clearance expiry time shall be specified by the ACC if a delayed departure would conflict with traffic not released to the unit providing approach control service. If, for traffic reasons of its own, a unit providing approach control service has to specify in addition its own clearance expiry time, this shall not be later than that specified by the ACC.	It is transposed as GM2 ATS.TR.230(b)(2).
10.1.3.3.1	EXCHANGE OF MOVEMENT AND CONTROL DATA The unit providing approach control service shall keep the ACC promptly advised of pertinent data on controlled traffic such as: a) runway(s)-in-use and expected type of instrument approach procedure; b) lowest vacant level at the holding fix available for use by the ACC; c) average time interval or distance between successive arrivals as determined by the unit providing approach control service; d) revision of the expected approach time issued by the ACC when the calculation of the expected approach time by the unit providing approach control	The first sentence is transposed as AMC2 ATS.TR.230(b)(2). The remaining text with bullet points is transposed as GM1 to AMC2 ATS.TR.230(b)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	service indicates a variation of five minutes or such other time as has been agreed between the two ATC units concerned; e) arrival times over the holding fix when these vary by three minutes, or such other time as has been agreed between the two ATC units concerned, from those previously estimated; f) cancellations by aircraft of IFR flight, if these will affect levels at the holding fix or expected approach times of other aircraft; g) aircraft departure times or, if agreed between the two ATC units concerned, the estimated time at the control area boundary or other specified point; h) all available information relating to overdue or unreported aircraft; i) missed approaches which may affect the ACC.	
10.1.3.3.2	The ACC shall keep the unit providing approach control service promptly advised of pertinent data on controlled traffic such as: a) identification, type and point of departure of arriving aircraft; b) estimated time and proposed level of arriving aircraft over holding fix or other specified point; c) actual time and proposed level of arriving aircraft over holding fix if aircraft is released to the unit providing approach control service after arrival over the holding fix; d) requested type of IFR approach procedure if different to that specified by the approach control unit; e) expected approach time issued; f) when required, statement that aircraft has been instructed to contact the unit providing approach control service; g) when required, statement that an aircraft has been released to the unit providing approach control service including, if necessary, the time and conditions of release;	The first sentence is transposed as AMC2 ATS.TR.230(b)(2). The remaining text with bullet points is transposed as GM2 to AMC2 ATS.TR.230(b)(2).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	h) anticipated delay to departing traffic due to congestion.	
10.1.3.3.3	Information on arriving aircraft shall be forwarded not less than fifteen minutes before estimated time of arrival and such information shall be revised as necessary.	It is transposed as AMC2 ATS.TR.230(b)(2).
10.1.4	COORDINATION BETWEEN A UNIT PROVIDING APPROACH CONTROL SERVICE AND A UNIT PROVIDING AERODROME CONTROL SERVICE	
10.1.4.1	DIVISION OF CONTROL	
10.1.4.1.1	A unit providing approach control service shall retain control of arriving aircraft until such aircraft have been transferred to the aerodrome control tower and are in communication with the aerodrome control tower. Letters of agreement or local instructions, appropriate to the airspace structure, terrain, meteorological conditions and ATS facilities available, shall establish rules for the transfer of arriving aircraft.	It is transposed as GM1 ATS.TR.230(a)(3).
10.1.4.1.2	A unit providing approach control service may authorize an aerodrome control tower to release an aircraft for take-off subject to the discretion of the aerodrome control tower with respect to arriving aircraft.	It is transposed as GM1 ATS.TR.230(a)(3).
10.1.4.1.3	Aerodrome control towers shall, when so prescribed in letters of agreement or local instructions, obtain approval from the unit providing approach control service prior to authorizing operation of special VFR flights.	It is transposed as GM1 ATS.TR.230(a)(3).
10.1.4.2	EXCHANGE OF MOVEMENT AND CONTROL DATA	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
10.1.4.2.1	An aerodrome control tower shall keep the unit providing approach control service promptly advised of pertinent data on relevant controlled traffic such as: a) arrival and departure times; b) when required, statement that the first aircraft in an approach sequence is in communication with and is sighted by the aerodrome control tower, and that reasonable assurance exists that a landing can be accomplished; c) all available information relating to overdue or unreported aircraft; d) information concerning missed approaches; e) information concerning aircraft that constitute essential local traffic to aircraft under the control of the unit providing approach control service.	The first sentence is transposed as AMC3 ATS.TR.230(b)(2). The second sentence is transposed as GM1 to AMC3 ATS.TR.230(b)(2).
10.1.4.2.2	The unit providing approach control service shall keep the aerodrome control tower promptly advised of pertinent data on controlled traffic such as: a) estimated time and proposed level of arriving aircraft over the aerodrome, at least fifteen minutes prior to estimated arrival; b) when required, a statement that an aircraft has been instructed to contact the aerodrome control tower and that control shall be assumed by that unit; c) anticipated delay to departing traffic due to congestion.	The first sentence is transposed as AMC3 ATS.TR.230(b)(2). The second sentence is transposed as GM2 to AMC3 ATS.TR.230(b)(2).
10.1.5	COORDINATION BETWEEN CONTROL POSITIONS WITHIN THE SAME UNIT	
10.1.5.1	Appropriate flight plan and control information shall be exchanged between control positions within the same air traffic control unit, in respect of: a) all aircraft for which responsibility for control will be transferred from one control position to another; b) aircraft operating in such close proximity to the boundary between control sectors that control of traffic within an adjacent sector may be affected;	It is transposed as AMC1 ATS.TR.230(a)(4).

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	c) all aircraft for which responsibility for control has been delegated by a controller using procedural methods to a controller using an ATS surveillance system, as well as other aircraft affected.	
10.1.5.2	Procedures for coordination and transfer of control between control sectors within the same ATC unit shall conform to the procedures applicable to ATC units.	Not transposed. The principle is already established in ATS.TR.230(a)(4).
10.1.6	FAILURE OF AUTOMATED COORDINATION The failure of automated coordination shall be presented clearly to the controller responsible for coordinating the flight at the transferring unit. This controller shall then facilitate the required coordination using prescribed alternative methods.	The first sentence is transposed as ATS IR ATS.OR.430(b). The second sentence is transposed as GM1 ATS.OR.430(b).
10.2	COORDINATION IN RESPECT OF THE PROVISION OF FLIGHT INFORMATION SERVICE AND ALERTING SERVICE	
10.2.1	Where this is deemed necessary by the appropriate ATS authority or authorities, coordination between ATS units providing flight information service in adjacent FIRs shall be effected in respect of IFR and VFR flights, in order to ensure continued flight information service to such aircraft in specified areas or along specified routes. Such coordination shall be effected in accordance with an agreement between the ATS units concerned.	It is transposed as GM GM2 ATS.TR.300(c)(2).
10.2.2	Where coordination of flights is effected in accordance with 10.2.1, this shall include transmission of the following information on the flight concerned: a) appropriate items of the current flight plan; and b) the time at which last contact was made with the aircraft concerned.	It is transposed as GM GM2 ATS.TR.300(c)(2).
10.2.3	This information shall be forwarded to the ATS unit in charge of the next FIR in which the aircraft will operate prior to the aircraft entering such FIR.	It is transposed as GM2 ATS.TR.300(c)(2).

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10.2.4	When so required by agreement between the appropriate ATS authorities to assist in the identification of strayed or unidentified aircraft and thereby eliminate or reduce the need for interception, flight plan and flight progress information for flights along specified routes or portions of routes in close proximity to FIR boundaries shall also be provided to the ATS units in charge of the FIRs adjacent to such routes or portions of routes.	It is transposed as GM2 ATS.TR.300(c)(2).
10.2.5	In circumstances where an aircraft has declared minimum fuel or is experiencing an emergency or in any other situation wherein the safety of the aircraft is not assured, the type of emergency and/or the circumstances experienced by the aircraft shall be reported by the transferring unit to the accepting unit and any other ATS unit that may be concerned with the flight and to the associated rescue coordination centres, if necessary.	It is transposed as GM GM2 ATS.TR.300(c)(2).
10.3	COORDINATION IN RESPECT OF THE PROVISION OF AIR TRAFFIC ADVISORY SERVICE	
10.3	ATS units providing air traffic advisory service shall apply the coordination procedures specified in Section 10.1 with respect to such aircraft having elected to use this type of service.	It is transposed as AMC2 ATS.TR.105(b).
10.4	COORDINATION BETWEEN AIR TRAFFIC SERVICES UNITS AND AERONAUTICAL TELECOMMUNICATION STATIONS When so prescribed by the appropriate ATS authority, ATS units shall ensure that the aeronautical telecommunications stations serving the centres concerned are informed regarding transfers of communications contact by aircraft. Unless otherwise provided, information to be made available shall comprise the identification of the aircraft (including SELCAL code, when necessary), the route or destination (where necessary), and the expected or actual time of communications transfer.	Not transposed, as it is only applicable to oceanic airspace.

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11	AIR TRAFFIC SERVICES MESSAGES	With the exception of Chapter 11.4.2.6.2.2, provisions in Chapter 11 are not transposed within Part-ATS, as it is considered to be more appropriate that flight planning related messages are transposed to complement Regulation (EC) No 1033/2006 'laying down the requirements on procedures for flight plans in the pre-flight phase for the single European sky', as amended by Regulation (EU) No 929/2010. Such Regulation already refer to Chapter 11 of PANS ATM for these purposes in its Article 3 and in the associated Annex.
11.1.1	In accordance with the requirements in Chapter 10 — *Coordination*, the messages listed below are authorized for transmission via the aeronautical fixed service (including the aeronautical telecommunication network (ATN) and the aeronautical fixed telecommunication network (AFTN), direct-speech circuits or digital data interchange between ATS units, and direct teletypewriter and computer-computer circuits), or via the aeronautical mobile service, as applicable. They are classified in categories relating to their use by the air traffic services and providing an approximate indication of their importance.	
11.1.1	*Note.— The Priority Indicator in parentheses after each type of message is that specified in Annex 10 (Volume II, Chapter 4) for application when the message is transmitted on the AFTN. The priority for all ATS interfacility data* *communication (AIDC) messages using the ATN shall be* "normal priority flight safety messages" *as determined by the ATN Internet protocol priority categorization.*	
11.1.2	This category comprises: a) distress messages and distress traffic, including messages relating to a distress phase (SS); b) urgency messages, including messages relating to an alert phase or to an uncertainty phase (DD); c) other messages concerning known or suspected emergencies which do not fall under a) or b) above, and radiocommunication failure messages (FF or higher as	

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	required).	
11.1.2	*Note.— When the messages in a) and b) and, if required, in c) above are filed with the public telecommunication service, the Priority Indicator SVH, assigned to telegrams relating to the safety of life, is to be used in accordance with Article 25 of the International Telecommunication Convention, Malaga, 1973.*	
11.1.3	This category comprises: a) movement messages (FF), including: — filed flight plan messages — delay messages — modification messages — flight plan cancellation messages — departure messages — arrival messages;	
11.1.3	b) coordination messages (FF), including: — current flight plan messages — estimate messages — coordination messages — acceptance messages — logical acknowledgement messages;	
11.1.3	c) supplementary messages (FF), including: — request flight plan messages	

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	— request supplementary flight plan messages — supplementary flight plan messages;	
11.1.3	d) AIDC messages, including: — notification messages — coordination messages — transfer of control messages — general information messages — application management messages;	
11.1.3	e) control messages (FF), including: — clearance messages — flow control messages — position-report and air-report messages.	
11.1.4.1	This category comprises: a) messages containing traffic information (FF); b) messages containing meteorological information (FF or GG); c) messages concerning the operation of aeronautical facilities (GG); d) messages containing essential aerodrome information (GG); e) messages concerning air traffic incident reports (FF).	
11.1.4.2	When justified by the requirement for special handling, messages transmitted via the AFTN should be assigned the Priority Indicator DD in place of the normal Priority Indicator.	

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11.2	*Note.— The use in this chapter of expressions such as* "originated", "transmitted", "addressed" *or* "received" *does not necessarily imply that reference is made to a teletypewriter or digital data interchange for a computer-to-computer message. Except where specifically indicated, the messages described in this chapter may also be transmitted by voice, in which case the four terms above represent "initiated", "spoken by", "spoken to" and "listened to" respectively.*	
11.2.1.1	*Note.— Movement messages in this context comprise flight plan messages, departure messages, delay messages, arrival messages, cancellation messages and position-report messages and modification messages relevant thereto.*	
11.2.1.1.1	Messages for ATS purposes shall be originated by the appropriate ATS units or by aircraft as specified in Section 11.3, except that, through special local arrangements, ATS units may delegate the responsibility for originating movement messages to the pilot, the operator, or its designated representative.	
11.2.1.1.2	Origination of movement, control and flight information messages for purposes other than air traffic services (e.g. operational control) shall, except as provided for in Annex 11, 2.16, be the responsibility of the pilot, the operator, or a designated representative.	
11.2.1.1.3	Flight plan messages, amendment messages related thereto and flight plan cancellation messages shall, except as provided in 11.2.1.1.4, be addressed only to those ATS units which are specified in the provisions of 11.4.2. Such messages shall be made available to other ATS units concerned, or to specified positions within such units and to any other addressees of the messages, in accordance with local arrangements.	
11.2.1.1.4	When so requested by the operator concerned, emergency and movement messages which are to be transmitted simultaneously to ATS units concerned, shall also be addressed to:	

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	a) one addressee at the destination aerodrome or departure aerodrome; and b) not more than two operational control units concerned; such addressees to be specified by the operator or its designated representative.	
11.2.1.1.5	When so requested by the operator concerned, movement messages transmitted progressively between ATS units concerned and relating to aircraft for which operational control service is provided by that operator shall, so far as practicable, be made available immediately to the operator or its designated representative in accordance with agreed local procedures.	
11.2.1.2.1	ATS messages to be transmitted via the AFTN shall contain: a) information in respect of the priority with which they are to be transmitted and the addressees to whom they are to be delivered, and an indication of the date and time at which they are filed with the aeronautical fixed station concerned and of the Originator Indicator (see 11.2.1.2.5); b) the ATS data, preceded if necessary by the supplementary address information described in 11.2.1.2.6, and prepared in accordance with Appendix 3. These data will be transmitted as the text of the AFTN message.	
11.2.1.2.2	This shall consist of the appropriate two-letter Priority Indicator for the message as shown in parentheses for the appropriate category of message in Section 11.1.	
11.2.1.2.2	*Note.— It is prescribed in Annex 10 (Volume II, Chapter 4) that the order of priority for the transmission of messages in the AFTN shall be as follows:*	
11.2.1.2.2	*Transmission Priority* — *Priority Indicator* 1 — SS 2 — DD FF 3 — GG KK	

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11.2.1.2.3.1	This shall consist of a sequence of Addressee Indicators, one for each addressee to whom the message is to be delivered.	
11.2.1.2.3.2	Each Addressee Indicator shall consist of an eight-letter sequence comprising, in the following order: a) the ICAO four-letter location indicator assigned to the place of destination;	
11.2.1.2.3.2	*Note.— A list of ICAO location indicators is contained in Doc 7910* — Location Indicators.	
11.2.1.2.3.2	b) i) the ICAO three-letter designator identifying the aeronautical authority, service or aircraft operating agency addressed, or ii) in cases where no designator has been assigned, one of the following: — "YXY" in the case where the addressee is a military service/organization, — "ZZZ" in the case where the addressee is an aircraft in flight, — "YYY" in all other cases;	
11.2.1.2.3.2	*Note.— A list of ICAO three-letter designators is contained in Doc 8585* — Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.	
11.2.1.2.3.2	c) i) the letter X, or ii) the one-letter designator identifying the department or division of the organization addressed.	
11.2.1.2.3.3	The following three-letter designators shall be used when addressing ATS messages to ATS units: Centre in charge of a flight information region or an upper flight information region (whether ACC or FIC):	

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	— if the message is relevant to an IFR flight ZQZ — if the message is relevant to a VFR flight ZFZ Aerodrome control tower ZTZ Air traffic services reporting office ZPZ Other three-letter designators for ATS units shall not be used for that purpose.	
11.2.1.2.4	The filing time shall consist of a six-digit date-time group indicating the date and the time of filing the message for transmission with the aeronautical fixed station concerned.	
11.2.1.2.5	The Originator Indicator shall consist of an eight-letter sequence, similar to an Addressee Indicator (see 11.2.1.2.3.2), identifying the place of origin and the organization originating the message.	
11.2.1.2.6	The following supplementary information is required when, in the Indicators of the Address and/or Origin, the three-letter designators "YXY", "ZZZ" or "YYY" (see 11.2.1.2.3.2 b) ii)) are used: a) the name of the organization or the identity of the aircraft concerned is to appear at the beginning of the text; b) the order of such insertions is to be the same as the order of the Addressee Indicators and/or the Originator Indicator; c) where there are more than one such insertion, the last should be followed by the word "STOP"; d) where there are one or more insertions in respect of Addressee Indicators plus an insertion in respect of the Originator Indicator, the word "FROM" is to appear before that relating to the Originator Indicator.	

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11.2.1.2.6	*Note.— Regarding ATS messages received in teletypewriter page-copy form:* *1) ATS messages received via the AFTN will have been placed within a communications "envelope"* *(preceding and following character sequences which are necessary to ensure correct transmission via the AFTN). Even the text of the AFTN message may be received with words or groups preceding and following the ATS text.* *2) The ATS message may then be located by the simple rule that it is preceded by an open bracket, e.g. '(' and followed by a close bracket, e.g. ')'.* *3) In some local cases, the teletypewriter machines in use will always print two specific symbols other than open bracket and close bracket on receipt of ATS messages constructed as prescribed in Appendix 3. Such local variants are easily learned and are of no consequence.*	
11.2.2.1	Except as provided for in 11.2.2.2, ATS messages shall be prepared and transmitted with standard texts in a standard format and in accordance with standard data conventions, as and when prescribed in Appendix 3.	
11.2.2.2	Where appropriate, the messages prescribed in Appendix 3 shall be supplemented with, and/or replaced by, AIDC messages prescribed in Appendix 6, on the basis of regional air navigation agreements.	
11.2.2.2.1	Where AIDC messages are transmitted via the ATN, the messages shall utilize the packed encoding rules using *abstract syntax notation one* (ASN.1).	
11.2.2.2.1	*Note.— Provisions and information on the ASN.1 packed encoding rules and AIDC addressing rules are contained in Annex 10, Volume II, Part I, and the* Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705). Guidance material concerning the operational use of AIDC messages is contained in the* Manual of Air Traffic Services Data Link Applications *(Doc 9694).*	

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11.2.2.2.2	Where AIDC messages are transmitted via the AFTN, the format for the AIDC messages shall, as far as practicable, comply with the appropriate data conventions contained in Appendix 3. AIDC data fields to be transmitted via the AFTN that are inconsistent with, or additional to, the data conventions contained in Appendix 3 shall be provided for on the basis of regional air navigation agreements.	
11.2.2.3	When messages are exchanged orally between the relevant ATS units, an oral acknowledgement shall constitute evidence of receipt of the message. No confirmation in written form directly between controllers shall therefore be required. The confirmation of coordination via the exchange of messages between automated systems shall be required unless special arrangements have been made between the units concerned.	
11.2.2.3	*Note.— See Annex 11, Chapter 6, regarding the requirement for recording of direct-speech communications.*	
11.3.1	The lead-time requirements of air traffic control and flow control procedures shall determine the method of message exchange to be used for the exchange of ATS data.	
11.3.1.1	The method of message exchange shall also be dependent upon the availability of adequate communications channels, the function to be performed, the types of data to be exchanged and the processing facilities at the centres concerned.	
11.3.2	Basic flight plan data necessary for flow control procedures shall be furnished at least 60 minutes in advance of the flight. Basic flight plan data shall be provided by either a filed flight plan or a repetitive flight plan submitted by mail in the form of a repetitive flight plan listing form or other media suitable for electronic data-processing systems.	
11.3.2.1	Flight plan data submitted in advance of flight shall be updated by time, level and route changes and other essential information as may be necessary.	

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11.3.3	Basic flight plan data necessary for air traffic control purposes shall be furnished to the first en-route control centre at least 30 minutes in advance of the flight, and to each successive centre at least 20 minutes before the aircraft enters that centre's area of jurisdiction, in order for it to prepare for the transfer of control.	
11.3.4	Except as provided for in 11.3.5, the second en-route centre and each successive centre shall be provided with current data, including updated basic flight plan data, contained in a current flight plan message or in an estimate message supplementing already available updated basic flight plan data.	
11.3.5	In areas where automated systems are utilized for the exchange of flight plan data and where these systems provide data for several ACCs, approach control units and/or aerodrome control towers, the appropriate messages shall not be addressed to each individual ATS unit, but only to these automated systems.	
11.3.5	*Note.— Further processing and distribution of the data to its associated ATS units is the internal task of the receiving system.*	
11.3.5.1	When AIDC messages are used, the sending unit shall determine the identity of the receiving ATS unit and all messages shall contain the identification of the next ATS unit. The receiving unit shall accept only messages intended for it.	
11.3.6	Movement messages shall be addressed simultaneously to the first en-route control centre, to all other ATS units along the route of flight which are unable to obtain or process current flight plan data, and to air traffic flow management units concerned.	
11.3.7.1	Progression of a flight between successive control sectors and/or control centres shall be effected by a coordination and transfer dialogue comprising the following stages: a) notification of the flight in order to prepare for coordination as necessary;	

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	b) coordination of conditions of transfer of control by the transferring ATC unit; c) coordination, if necessary, and acceptance of conditions of transfer of control by the accepting ATC unit; and d) the transfer of control to the accepting unit.	
11.3.7.2	Except as provided for in 11.3.7.3, the notification of the flight shall be by a current flight plan message containing all relevant ATS data or by an estimate message containing the proposed conditions of transfer. An estimate message shall be used only when updated basic flight plan data is already available at the receiving unit, i.e. a filed flight plan message and associated update message(s) have already been sent by the transferring unit.	
11.3.7.3	Where AIDC messages are used, the notification of the flight shall be via a Notification message and/or Coordination Initial message containing all relevant ATS data.	
11.3.7.4	Except as provided for in 11.3.7.5, the coordination dialogue shall be considered to be completed as soon as the proposed conditions contained in the current flight plan message, or in the estimate message or in one or more counterproposals, are accepted by an operational or logical procedure.	
11.3.7.5	Where AIDC messages are used, any coordination dialogue shall be considered to be completed as soon as the Coordinate Initial message or a counterproposal (Coordinate Negotiate message) has been accepted.	
11.3.7.6	Except as provided for in 11.3.7.7, unless an operational acknowledgement is received, a Logical Acknowledgement message shall be automatically transmitted by the receiving computer in order to ensure the integrity of the coordination dialogue employing computer-to-computer links. This message shall be transmitted when the transfer data has been received and processed to the point that it is considered free of syntactic and semantic errors, i.e. the message contains valid information.	

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11.3.7.7	Where AIDC messages are used, an Application Accept message shall be automatically transmitted by the receiving computer in order to ensure the integrity of the coordination dialogue employing computer-to-computer links. This message shall be transmitted when the coordination, general information or transfer data has been received, processed and found free of errors and, where relevant, is available for presentation at the control position.	
11.3.7.8	The transfer of control shall be either explicit or, by agreement between the two units concerned, implicit, i.e. no communication need be exchanged between the transferring and accepting units.	
11.3.7.9	When the transfer of control involves exchange of data, the proposal for transfer shall include information derived from an ATS surveillance system, if appropriate. Since the proposal relates to previously accepted coordination data, further coordination shall normally not be required. However, acceptance of the proposed transfer conditions shall be required.	
11.3.7.10	In situations where the proposed transfer conditions are no longer acceptable to the accepting unit, further coordination shall be initiated by the accepting unit by proposing alternative acceptable conditions.	
11.3.7.11	Transfer of Communication messages may be used as an alternative to Transfer of Control messages. If Transfer of Communication messages are used to instruct a flight to establish communications with the receiving unit and the transfer of control will take place at the control area boundary, or such other time or place, specified in letters of agreement, Transfer of Control messages need not be used.	
11.3.7.12	If, after receipt of information derived from an ATS surveillance system, the accepting centre is unable to identify the aircraft immediately, additional communication shall ensue to obtain new surveillance information, if appropriate.	

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11.3.7.13	When control of the transferred aircraft has been assumed, the accepting unit shall complete the transfer of control dialogue by communicating assumption of control to the transferring unit, unless special arrangements have been made between the units concerned.	
11.3.8.1	When basic flight plan data or supplementary flight plan data are required, request messages shall be addressed to the ATS unit which is most likely to have access to the required data.	
11.3.8.1	*Note.— See 11.4.2.4.2 and 11.4.2.4.3 for ATS units to which request messages shall be addressed.*	
11.3.8.2	If the requested information is available, a filed or a supplementary flight plan message shall be transmitted.	
11.4.1.1	The various circumstances surrounding each known or suspected emergency situation preclude the specification of standard message types to provide for emergency communications, except as described in 11.4.1.2, 11.4.1.3 and 11.4.1.4.	
11.4.1.2.1	When an ATS unit considers that an aircraft is in a state of emergency as defined in Annex 11, Chapter 5, an alerting message shall be transmitted to any ATS unit that may be concerned with the flight and to the associated rescue coordination centres, containing such of the information specified in Appendix 3, Section 1, as is available or can be obtained.	
11.4.1.2.1	When so agreed between the ATS units concerned, a communication relating to an emergency phase and originated by a unit employing automatic data-processing equipment may take the form of a modification message (as in 11.4.2.2.4) or a coordination message (as in 11.4.2.3.4 or 11.4.2.4.4), supplemented by a verbal message giving the additional details prescribed for inclusion in an alerting message.	

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11.4.1.3	*Note.— Provisions governing the action to be taken in the event of radiocommunication failure are set forth in Annex 2, 3.6.5.2, and in Chapter 15, Section 15.6 of this document.*	
11.4.1.3.1	When an ATS unit is aware that an aircraft in its area is experiencing radiocommunication failure, an RCF message shall be transmitted to all subsequent ATS units along the route of flight which have already received basic flight plan data (FPL or RPL) and to the aerodrome control tower at the destination aerodrome, if basic flight plan data has been previously sent.	
11.4.1.3.2	If the next ATS unit has not yet received basic flight plan data because it would receive a current flight plan message in the coordination procedure, then an RCF message and a current flight plan (CPL) message shall be transmitted to this ATS unit. In turn, this ATS unit shall transmit an RCF message and a CPL message to the next ATS unit.	
11.4.1.4.1	Whenever operational information needs to be transmitted concerning an aircraft known or believed to be in a state of emergency and the information cannot be formatted to comply with any other AIDC message type, a free text emergency message shall be sent.	
11.4.1.4.2	The following are some examples of circumstances which could justify the use of a free text emergency message: a) reports of emergency calls or emergency locator transmission reports; b) messages concerning unlawful interference or bomb warnings; c) messages concerning serious illness or disturbance among passengers; d) sudden alteration in flight profile due to technical or navigational failure; and e) communication failure.	
11.4.2.1	Messages concerning the intended or actual movement of aircraft shall be based on the latest information furnished to ATS units by the pilot, the operator or its	

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	designated representative, or derived from an ATS surveillance system.	
11.4.2.2.1	Movement messages comprise: — filed flight plan messages (11.4.2.2.2) — delay messages (11.4.2.2.3) — modification messages (11.4.2.2.4) — flight plan cancellation messages (11.4.2.2.5) — departure messages (11.4.2.2.6) — arrival messages (11.4.2.2.7).	
11.4.2.2.2	*Note.— Instructions for the transmission of an FPL message are contained in Appendix 2.*	
11.4.2.2.2.1	Unless repetitive flight plan procedures are being applied or current flight plan messages are being employed, filed flight plan messages shall be transmitted for all flights for which a flight plan has been submitted with the object of being provided with air traffic control service, flight information service or alerting service along part or the whole of the route of flight.	
11.4.2.2.2.2	A filed flight plan message shall be originated and addressed as follows by the ATS unit serving the departure aerodrome or, when applicable, by the ATS unit receiving a flight plan from an aircraft in flight: a) an FPL message shall be sent to the ACC or flight information centre serving the control area or FIR within which the departure aerodrome is situated; b) unless basic flight plan data are already available as a result of arrangements made for repetitive flight plans, an FPL message shall be sent to all centres in	

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	charge of each FIR or upper FIR along the route which are unable to process current data. In addition, an FPL message shall be sent to the aerodrome control tower at the destination aerodrome. If so required, an FPL message shall also be sent to flow management centres responsible for ATS units along the route; c) when a potential re-clearance in flight (RIF) request is indicated in the flight plan, the FPL message shall be sent to the additional centres concerned and to the aerodrome control tower of the revised destination aerodrome; d) where it has been agreed to use CPL messages but where information is required for early planning of traffic flow, an FPL message shall be transmitted to the ACCs concerned; e) for a flight along routes where flight information service and alerting service only are provided, an FPL message shall be addressed to the centre in charge of each FIR or upper FIR along the route and to the aerodrome control tower at the destination aerodrome.	
11.4.2.2.2.3	In the case of a flight through intermediate stops, where flight plans for each stage of the flight are filed at the first departure aerodrome, the following procedure shall be applied: a) the air traffic services reporting office at the first departure aerodrome shall: 1) transmit an FPL message for the first stage of flight in accordance with 11.4.2.2.2.2; 2) transmit a separate FPL message for each subsequent stage of flight, addressed to the air traffic services reporting office at the appropriate subsequent departure aerodrome; b) the air traffic services reporting office at each subsequent departure aerodrome shall take action on receipt of the FPL message as if the flight plan has been filed locally.	

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11.4.2.2.2.4	When so required by agreement between the appropriate ATS authorities to assist in the identification of flights and thereby eliminate or reduce the need for interceptions in the event of deviations from assigned track, FPL messages for flights along specified routes or portions of routes in close proximity to FIR boundaries shall also be addressed to the centres in charge of each FIR or upper FIR adjacent to such routes or portions of routes.	
11.4.2.2.2.5	FPL messages should be transmitted immediately after the filing of the flight plan. If a flight plan is filed more than 24 hours in advance of the estimated off-block time of the flight to which it refers, the date of the flight departure shall be inserted in Item 18 of the flight plan.	
11.4.2.2.3.1	A DLA message shall be transmitted when the departure of an aircraft, for which basic flight plan data (FPL or RPL) has been sent, is delayed by more than 30 minutes after the estimated off-block time contained in the basic flight plan data.	
11.4.2.2.3.2	The DLA message shall be transmitted by the ATS unit serving the departure aerodrome to all recipients of basic flight plan data.	
11.4.2.2.3.2	*Note.— See 11.4.2.3.4 concerning notification of a delayed departure of an aircraft for which a CPL message has been transmitted.*	
11.4.2.2.4	A CHG message shall be transmitted when any change is to be made to basic flight plan data contained in previously transmitted FPL or RPL data. The CHG message shall be sent to those recipients of basic flight plan data which are affected by the change. Relevant revised basic flight plan data shall be provided to such affected entities not previously having received this.	
11.4.2.2.4	*Note.— See 11.4.2.3.4 concerning notification of a change to coordination data contained in a previously transmitted current flight plan or estimate message.*	

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11.4.2.2.5	A flight plan cancellation (CNL) message shall be transmitted when a flight, for which basic flight plan data has been previously distributed, has been cancelled. The ATS unit serving the departure aerodrome shall transmit the CNL message to ATS units which have received basic flight plan data.	
11.4.2.2.6.1	Unless otherwise prescribed on the basis of regional air navigation agreements, a DEP message shall be transmitted immediately after the departure of an aircraft for which basic flight plan data have been previously distributed.	
11.4.2.2.6.2	The DEP message shall be transmitted by the ATS unit serving the departure aerodrome to all recipients of basic flight plan data.	
11.4.2.2.6.2	*Note.— See 11.4.2.3.4 concerning notification of the departure of an aircraft for which a CPL message has been transmitted.*	
11.4.2.2.7.1	When an arrival report is received by the ATS unit serving the arrival aerodrome, this unit shall transmit an ARR message: a) for a landing at the destination aerodrome: 1) to the ACC or flight information centre in whose area the arrival aerodrome is located, if required by that unit; and 2) to the ATS unit, at the departure aerodrome, which originated the flight plan message, if that message included a request for an ARR message; b) for a landing at an alternate or other aerodrome: 1) to the ACC or flight information centre in whose area the arrival aerodrome is located; and 2) to the aerodrome control tower at the destination aerodrome; and 3) to the air traffic services reporting office at the departure aerodrome; and 4) to the ACC or flight information centre in charge of each FIR or upper FIR	

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	through which the aircraft would have passed according to the flight plan, had it not diverted.	
11.4.2.2.7.2	When a controlled flight which has experienced failure of two-way communication has landed, the aerodrome control tower at the arrival aerodrome shall transmit an ARR message: a) for a landing at the destination aerodrome: 1) to all ATS units concerned with the flight during the period of the communication failure; and 2) to all other ATS units which may have been alerted; b) for a landing at an aerodrome other than the destination aerodrome: to the ATS unit serving the destination aerodrome; this unit shall then transmit an ARR message to other ATS units concerned or alerted as in a) above.	
11.4.2.3	*Note.— The provisions governing coordination are contained in Chapter 10. Phraseology to be used in voice communication is contained in Chapter 12. See paragraph 11.4.2.5 below for the provisions governing AIDC messages, as prescribed in Appendix 6.*	
11.4.2.3.1	Coordination messages comprise: — current flight plan messages (11.4.2.3.2) — estimate messages (11.4.2.3.3) — coordination messages (11.4.2.3.4) — acceptance messages (11.4.2.3.5) — logical acknowledgement messages (11.4.2.3.6).	

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11.4.2.3.2.1	Unless basic flight plan data have already been distributed (FPL or RPL) which will be supplemented by coordination data in the estimate message, a CPL message shall be transmitted by each ACC to the next ACC and from the last ACC to the aerodrome control tower at the destination aerodrome, for each controlled flight, and for each flight provided with air traffic advisory service along routes or portions of routes where it has been determined by the appropriate ATS authority that adequate point-to-point communications exist and that conditions are otherwise suitable for forwarding current flight plan information.	
11.4.2.3.2.2	When an aircraft traverses a very limited portion of a control area where, by agreement between the appropriate ATS authorities concerned, coordination of air traffic through that portion of the control area has been delegated to and is effected directly by the two centres whose control areas are separated by that portion, CPLs shall be transmitted directly between such units.	
11.4.2.3.2.3	A CPL message shall be transmitted in sufficient time to permit each ATS unit concerned to receive the information at least 20 minutes before the time at which the aircraft is estimated to pass the transfer of control point or boundary point at which it comes under the control of such unit, unless another period of time has been prescribed by the appropriate ATS authority. This procedure shall apply whether or not the ATS unit responsible for origination of the message has assumed control of, or established contact with, the aircraft by the time the transmission is to be effected.	
11.4.2.3.2.4	When a CPL message is transmitted to a centre which is not using automatic data-processing equipment, the period of time specified in 11.4.2.3.2.3 may be insufficient, in which case an increased lead-time shall be agreed.	
11.4.2.3.2.5	A CPL message shall include only information concerning the flight from the point of entry into the next control area or advisory airspace to the destination aerodrome.	

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11.4.2.3.3.1	When basic flight plan data for a flight has been provided, an EST message shall be transmitted by each ACC or flight information centre to the next ACC or flight information centre along the route of flight.	
11.4.2.3.3.2	An EST message shall be transmitted in sufficient time to permit the ATS unit concerned to receive the information at least 20 minutes before the time at which the aircraft is estimated to pass the transfer of control point or boundary point at which it comes under the control of such unit, unless another period of time has been prescribed by the appropriate ATS authority. This procedure shall apply whether or not the ACC or flight information centre responsible for origination of the message has assumed control of, or established contact with, the aircraft by the time the transmission is to be effected.	
11.4.2.3.3.3	When an EST message is transmitted to a centre which is not using automatic data-processing equipment, the period of time specified in 11.4.2.3.3.2 may be insufficient, in which case an increased lead-time shall be agreed.	
11.4.2.3.4.1	A CDN message shall be transmitted during the coordination dialogue by an accepting unit to the transferring unit when the former wishes to propose a change to coordination data as contained in a previously received CPL or EST message.	
11.4.2.3.4.2	If the transferring unit wishes to propose a change to the data contained in a CDN message received from the accepting unit, a CDN message shall be transmitted to the accepting unit.	
11.4.2.3.4.3	The dialogue described above is repeated until the coordination dialogue is completed by the transmission of an acceptance (ACP) message by one of the two units concerned. Normally, however, when a change is proposed to a CDN message, direct-speech circuits shall be used to resolve this issue.	
11.4.2.3.4.4	After the coordination dialogue has been completed, if one of the two ATS units concerned wishes to propose or notify any change in basic flight plan data or conditions of transfer, a CDN message shall be transmitted to the other unit.	

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	This requires that the coordination dialogue be repeated.	
11.4.2.3.4.5	A repeated coordination dialogue is completed by the transmission of an ACP message. Normally, in a repeated coordination dialogue, direct-speech circuits shall be used.	
11.4.2.3.5.1	Unless special arrangements have been made between the air traffic control units concerned in accordance with Chapter 10, 10.1.2.2.1, an ACP message shall be transmitted by an accepting unit to the transferring unit to indicate that data in a CPL or an EST message is accepted.	
11.4.2.3.5.2	Either the accepting unit or the transferring unit shall transmit an ACP message to indicate that data received in a CDN message is accepted and that the coordination dialogue is completed.	
11.4.2.3.6.1	An LAM shall be used only between ATC computers.	
11.4.2.3.6.2	An ATC computer shall transmit an LAM in response to a CPL or EST or other appropriate message which is received and processed up to the point where the operational content will be received by the appropriate controller.	
11.4.2.3.6.3	The transferring centre shall set an appropriate reaction time parameter when the CPL or EST message is transmitted. If the LAM is not received within the parameter time, an operational warning shall be initiated and reversion to telephone and manual mode shall ensue.	
11.4.2.4.1	Supplementary messages comprise: — request flight plan messages (11.4.2.4.2) — request supplementary flight plan messages (11.4.2.4.3)	

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	— supplementary flight plan messages (11.4.2.4.4).	
11.4.2.4.2	A request flight plan (RQP) message shall be transmitted when an ATS unit wishes to obtain flight plan data. This might occur upon receipt of a message concerning an aircraft for which no corresponding basic flight plan data had been previously received. The RQP message shall be transmitted to the transferring ATS unit which originated an EST message, or to the centre which originated an update message for which no corresponding basic flight plan data are available. If no message has been received at all, but an aircraft establishes radiotelephony (RTF) communications and requires air traffic services, the RQP message shall be transmitted to the previous ATS unit along the route of flight.	
11.4.2.4.3	A request supplementary flight plan (RQS) message shall be transmitted when an ATS unit wishes to obtain supplementary flight plan data. The message shall be transmitted to the air traffic services reporting office at the departure aerodrome or in the case of a flight plan submitted during flight, to the ATS unit specified in the flight plan message.	
11.4.2.4.4	*Note.— Instructions for the transmission of an SPL are contained in Appendix 2.*	
11.4.2.4.4	An SPL message shall be transmitted by the ATS reporting office at the departure aerodrome to ATS units requesting information additional to that already transmitted in a CPL or FPL message. When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.	
11.4.2.5.1	AIDC messages comprise: — Notify messages (11.4.2.5.3) — Coordinate Initial messages (11.4.2.5.4) — Coordinate Negotiate messages (11.4.2.5.5)	

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	— Coordinate Accept messages (11.4.2.5.6) — Coordinate Reject messages (11.4.2.5.7) — Coordinate Cancel messages (11.4.2.5.8) — Coordinate Update messages (11.4.2.5.9) — Coordinate Standby messages (11.4.2.5.10) — Transfer Initiate messages (11.4.2.5.11) — Transfer Conditions Proposal messages (11.4.2.5.12) — Transfer Conditions Accept messages (11.4.2.5.13) — Transfer Communication Request messages (11.4.2.5.14) — Transfer Communication messages (11.4.2.5.15) — Transfer Communication Assume messages (11.4.2.5.16) — Transfer Control messages (11.4.2.5.17) — Transfer Control Assume messages (11.4.2.5.18) — General Point messages (11.4.2.5.19) — General Executive Data messages (11.4.2.5.20) — Free Text Emergency messages (11.4.1.4) — Free Text General messages (11.4.2.5.21) — Application Accept messages (11.4.2.5.22) — Application Reject messages (11.4.2.5.23).	
11.4.2.5.2	The requirements with regard to the selection of AIDC messages and the associated procedures should be established on the basis of regional air navigation agreements in order to facilitate the harmonization of ATS in adjacent airspaces.	

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11.4.2.5.2	*Note.— While the implementation of AIDC messages is intended to automate the ATC coordination process and minimize the requirement for voice coordination, it is not a complete replacement for voice, especially when a flight is in close proximity to the boundary with an adjoining unit.*	
11.4.2.5.3.1	Notify messages shall be transmitted in advance to the ATS unit(s) for which coordination for the flight will be required. This could include ATS units that may be affected by the flight's trajectory even though the flight may not actually enter the airspace of these ATS units. The initial Notify message shall be sent at or prior to an agreed time or distance before the common boundary with the receiving unit. This time or distance shall normally occur prior to the transmission of the initial coordination message. If an aircraft is departing an aerodrome close to the common boundary, however, adjacent units may agree that no Notify message is required and that a Coordinate Initial message will suffice.	
11.4.2.5.3.2	All Notify messages shall include boundary estimate data. Route data, when included, shall as a minimum contain information from a point prior to entry into the receiving unit to the destination aerodrome.	
11.4.2.5.3.2	*Note 1.— The amount of route information prior to the point of entry into the airspace of the receiving units depends on the environment of the flight. Typically, more route information would be required in a procedural environment.*	
11.4.2.5.3.2	*Note 2.— To permit the synchronization of flight data information with adjacent units, the initial Notify message may contain all flight plan data associated with the flight.*	
11.4.2.5.3.3	Prior to the transmission of the Coordinate Initial message, amendments to the contents of a previously transmitted Notify message shall be communicated by transmission of another Notify message containing the amended data. Amendments to the level, route or destination aerodrome, may also necessitate a	

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	change to the ATS units to which the new Notify message is sent.	
11.4.2.5.3.4	If the destination of an aircraft is amended prior to the transmission of the initial Notify message, the destination aerodrome in the Notify message shall contain the amended destination. If the destination is amended after the transmission of the initial Notify message but prior to the transmission of the Coordinate Initial message, a new Notify message shall be transmitted containing the original destination in the destination aerodrome data, and the new destination as the amended destination. Subsequent AIDC messages to the same unit shall contain only the amended destination in the destination aerodrome data.	
11.4.2.5.3.5	There is no operational response to a Notify message.	
11.4.2.5.4.1	A Coordinate Initial message shall be transmitted by each area control centre to the next area control centre and from the last area control centre to the approach control unit serving the destination aerodrome (or aerodrome control if such a unit does not exist), for each controlled flight, and for each flight provided with air traffic advisory service, along routes or portions of routes where it has been determined by the appropriate ATS authority that conditions are suitable for forwarding coordination information. This may include ATS units that will be affected by the flight's trajectory even though the flight may not actually enter the airspace of these ATS units.	
11.4.2.5.4.2	The Coordinate Initial message constitutes a proposal for coordination of a flight in accordance with the information contained in the coordination message and any previously received notification message(s) (if applicable). All Coordinate Initial messages shall include boundary estimate data. Route data, when included, shall as a minimum contain information from a point prior to entry into the next unit to the destination aerodrome.	

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11.4.2.5.4.2	*Note 1.— The amount of route information prior to the point of entry into the airspace of the receiving ATS units depends on the environment of the flight. Typically, more route information would be required in a procedural environment.*	
11.4.2.5.4.2	*Note 2.— To permit the synchronization of flight data information with adjacent units if a Notify message has not been previously transmitted, the Coordinate Initial message may contain all flight plan data associated with the flight.*	
11.4.2.5.4.3	When an aircraft traverses a very limited portion of a control area where, by agreement between the appropriate ATS authorities, coordination of air traffic through that portion of the control area has been delegated to, and is effected directly between, the two units whose control areas are separated by that portion, Coordinate Initial messages shall be transmitted directly between such units, in addition to the ATS unit whose airspace is being traversed.	
11.4.2.5.4.4	A Coordinate Initial message shall be transmitted in sufficient time to permit each ATS unit concerned to receive the information at least 20 minutes before the time at which the aircraft is estimated to pass the transfer of control point or boundary point with the receiving unit, unless another period of time has been prescribed by the appropriate ATS authority. This requirement shall apply whether or not the ATS unit responsible for origination of the Coordinate Initial message has assumed control of, or established contact with, the aircraft by the time the coordination is to be effected.	
11.4.2.5.4.5	When a Coordinate Initial message is transmitted to an ATS unit which is not using automatic data-processing equipment, the period of time specified in 11.4.2.5.4.4 may be insufficient, in which case an increased time parameter may be agreed upon.	
11.4.2.5.4.6	The standard responses to a Coordinate Initial message are either a Coordinate Negotiate or a Coordinate Accept message. However, if a Coordinate Initial message is received proposing non-standard coordination conditions and the Coordinate Negotiate message is not an appropriate response, the Coordinate	

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	Reject message may be used to reject the Coordinate Initial message. If this occurs, local procedures shall prescribe the requirements to complete the coordination process.	
11.4.2.5.5.1	A Coordinate Negotiate message shall be transmitted by the receiving unit to the transferring unit during the initial coordination dialogue when the receiving unit wishes to propose an amendment to the coordination conditions contained in the Coordinate Initial message.	
11.4.2.5.5.2	Normally, when further negotiation is required in response to a Coordinate Negotiate message received during the initial coordination dialogue, direct-speech circuits shall be used to resolve the issue. However, where so agreed between the two units, a Coordinate Negotiate message shall be transmitted in response. This message exchange is repeated until the coordination dialogue is completed by the transmission of a Coordinate Accept message by one of the units.	
11.4.2.5.5.3	A Coordinate Negotiate message shall be transmitted after successful completion of coordination by either the transferring or receiving unit to propose an amendment to the previously agreed coordination conditions. The Coordinate Negotiate message is sent if the amendments are not in accordance with letters of agreement between the transferring and receiving units, or if Coordinate Update messages are not in use.	
11.4.2.5.5.4	A Coordinate Negotiate message would not normally be transmitted after the transition to the transfer state has commenced. However, where so agreed between ATS units, a Coordinate Negotiate message shall be transmitted by the receiving ATS unit to propose a modification to the flight details after the transfer of control of the flight has been completed, but when the flight is still within proximity of the boundary between the two ATS units.	
11.4.2.5.5.5	Normally, when a further change is required in response to a Coordinate Negotiate message received after the initial coordination has been successfully	

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	completed, direct-speech circuits shall be used to resolve the issue. However, where so agreed between ATS units, a Coordinate Negotiate message may be transmitted in response. This message exchange is repeated until the negotiation dialogue is completed by the transmission of either a Coordinate Accept or Coordinate Reject message by one of the units.	
11.4.2.5.5.6	If a Coordinate Negotiate message is used to propose an amendment to the destination aerodrome, the Coordinate Negotiate message shall contain the original destination in the destination aerodrome data, and the new destination as the amended destination. The operational response to this Coordinate Negotiate message shall also contain the original destination in the destination aerodrome data. Provided that the amendment is accepted, subsequent AIDC messages to the same unit shall refer only to the amended destination in the destination aerodrome data.	
11.4.2.5.5.7	All Coordinate Negotiate messages shall contain boundary estimate data. When agreed between the two units, a Coordinate Negotiate message shall be sent to update other flight plan data such as CNS equipment and other information. Route data, when included due to a new route needing to be coordinated, shall as a minimum contain information from a point prior to entry into the next unit to the point where the new route rejoins the previously coordinated route.	
11.4.2.5.5.8	A Coordinate Negotiate message would normally be presented to the controller for manual processing.	
11.4.2.5.6.1	A Coordinate Accept message shall be transmitted by the ATS unit receiving a Coordinate Initial, Coordinate Update or Coordinate Negotiate message to indicate that the proposed coordination conditions (or revision thereto) contained in the received message are accepted.	
11.4.2.5.6.2	When a Coordinate Accept message is transmitted in response to a negotiation dialogue proposing an amendment to the destination aerodrome, the Coordinate Accept message may (optionally) contain the previous destination in the	

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	destination aerodrome data.	
11.4.2.5.6.2	*Note.— The use of the previous destination in the destination aerodrome data of the Coordinate Accept message may be required to ensure the proper association with the Coordinate Negotiate message proposing the amendment of the destination aerodrome.*	
11.4.2.5.6.3	The Coordinate Accept message terminates the coordination or negotiation dialogue. There is no operational response to a Coordinate Accept message.	
11.4.2.5.7.1	When agreed between the two units, a Coordinate Reject message may be used to reject the coordination conditions proposed in a Coordinate Initial message if these coordination conditions are not in accordance with letters of agreement. The Coordinate Reject message may only be used as a response to a Coordinate Initial message provided that local procedures exist to complete the coordination of the flight.	
11.4.2.5.7.2	A Coordinate Reject message shall be transmitted by the ATS unit receiving a Coordinate Update or Coordinate Negotiate message to indicate that the proposed revision to coordination conditions contained in the received message are not acceptable and that no counterproposal will be made by the use of a Coordinate Negotiate message.	
11.4.2.5.7.3	When a Coordinate Reject message is transmitted in response to a negotiation dialogue proposing an amendment to the aerodrome, the Coordinate Reject message may (optionally) contain the previous destination in the destination aerodrome data.	
11.4.2.5.7.3	*Note.— The use of the previous destination in the destination aerodrome data of the Coordinate Reject message may be required to ensure the proper association with the Coordinate Negotiate message proposing the amendment of the destination aerodrome.*	

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11.4.2.5.7.4	A Coordinate Reject message terminates the coordination or negotiation dialogue. If the Coordinate Reject was a response to a negotiation dialogue after coordination had been completed, any previously agreed coordination conditions remain valid. There is no operational response to a Coordinate Reject message.	
11.4.2.5.8.1	A Coordinate Cancel message shall be transmitted by the transferring unit to the receiving unit to abrogate the existing notification or coordination of a flight in the event that it is delayed indefinitely or the route or level is amended such that the flight is no longer expected to enter the airspace of the receiving unit directly from that of the transferring unit. If the amendments to the route or level of the flight are such that it will now affect another unit the transmission of an initial Notify message and/or Coordinate Initial message to that unit may be required.	
11.4.2.5.8.2	The Coordinate Cancel message may include information regarding the reason for the cancellation. This information is defined in the *Manual of Air Traffic Services Data Link Applications* (Doc 9694).	
11.4.2.5.8.3	There is no operational response to a Coordinate Cancel message.	
11.4.2.5.9.1	A Coordinate Update message shall be transmitted by the transferring unit to the receiving unit to propose an amendment to the previously agreed coordination conditions, provided that the proposed amendment is in accordance with letters of agreement. If the amendment is not in accordance with letters of agreement, a Coordinate Negotiate message shall be used instead. A Coordinate Update message shall not be transmitted before coordination has been successfully completed, or after the transition to the transfer state has commenced.	
11.4.2.5.9.2	If the flight is greater than an agreed time or distance prior to the boundary, amendments contained in a Coordinate Update message are automatically processed by the receiving unit, and a Coordinate Accept message is transmitted automatically in response. If the flight is within this agreed time or distance prior to the boundary, a Coordinate Negotiate message shall be used.	

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11.4.2.5.9.3	If a Coordinate Update message is used to propose an amendment to the destination aerodrome, the Coordinate Update message shall contain the original destination in the destination aerodrome data, and the new destination as the amended destination. The operational response to this Coordinate Update message shall also contain the original destination in the destination aerodrome data. Provided that the amendment is accepted, subsequent AIDC messages to the same unit shall contain only the amended destination in the destination aerodrome data.	
11.4.2.5.9.4	All Coordinate Update messages shall contain boundary estimate data. When agreed between the two units, a Coordinate Update message shall be sent to update other flight plan data such as CNS equipment and other information. Route data, when included due to a new route needing to be coordinated, shall as a minimum contain information from a point prior to entry into the next unit to the point where the new route rejoins the previously coordinated route.	
11.4.2.5.10	The Coordinate Standby message shall be sent by the unit receiving a Coordinate Initial or Coordinate Negotiate message to indicate to the sending unit that their proposal has been received and will be responded to in due course. It could be used for example, if the coordination message had to be referred for manual processing or if further coordination had to be conducted with another unit.	
11.4.2.5.11.1	The transfer of control and communication messages that are to be used in a specific ATC environment shall be agreed between the units concerned and should be agreed on a regional basis. The messages used in a high density continental environment will be different from those required in a low density remote airspace environment.	
11.4.2.5.11.2	The Transfer Initiate message shall be transmitted automatically by the transferring unit at or prior to an agreed time or distance before the common boundary. This message, initiating the transfer phase, shall be sent only after coordination has been successfully completed with the receiving unit.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
11.4.2.5.11.3	The Transfer Initiate message contains all executive data and may optionally include any track data relating to the flight. This information updates the receiving unit with the current control environment of the flight, e.g. current cleared flight level and any speed restrictions, rate of climb or descent, heading or direct routing that may have been assigned.	
11.4.2.5.11.4	The Transfer Initiate message alleviates the requirement for the controller in the transferring unit to verbally provide this information to the controller in the receiving unit while also allowing the automatic update of the flight data held by the receiving unit.	
11.4.2.5.11.5	There is no operational response to a Transfer Initiate message.	
11.4.2.5.12.1	The Transfer Conditions Proposal message shall be used to manually transfer a flight early, or under conditions that are not in accordance with those specified in the applicable letter of agreement (e.g. assigned speed greater than that agreed to in the letter of agreement, aircraft on heading). If a Transfer Initiate message had not previously been sent, the Transfer Conditions Proposal message initiates the transfer phase, and the transmission of the Transfer Initiate message is not required.	
11.4.2.5.12.2	Subsequent amendments to the control environment of the flight are coordinated by the transmission of another Transfer Conditions Proposal message containing new executive data to the receiving unit.	
11.4.2.5.12.3	The Transfer Conditions Proposal message proposes the transfer of communication and control of the flight to the controller in the accepting unit, together with updated control environment data. The message should be referred to the controller in the receiving unit for manual processing.	
11.4.2.5.12.3	*Note.— The terms of the transfer of control contained in the relevant letter of agreement may restrict control of the aircraft until the aircraft has reached the*	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	transfer of control point.	
11.4.2.5.12.4	The operational response to a Transfer Conditions Proposal is a Transfer Conditions Accept message.	
11.4.2.5.13.1	The Transfer Conditions Accept message is transmitted by the accepting unit to indicate that the controller has agreed to accept the transfer of communication and control of the flight in accordance with the conditions proposed in the Transfer Conditions Proposal message.	
11.4.2.5.13.2	Where required, the Transfer Conditions Accept message shall include the radiotelephony frequency(ies) or channel(s) as appropriate that the flight is to be transferred to.	
11.4.2.5.13.3	There is no operational response to a Transfer Conditions Accept message.	
11.4.2.5.14.1	The Transfer Communication Request message shall be transmitted by the controller in the accepting unit to request the transfer of communication of a flight. The message shall be used when the controller in the accepting unit requires communication with the flight forthwith and indicates that the controller in the transferring unit should transmit appropriate contact instructions to the relevant aircraft. Where required, the Transfer Communication Request message shall include the radiotelephony frequency(ies) or channel(s) as appropriate that the flight is to be transferred to.	
11.4.2.5.14.2	There is no operational response required for the Transfer Communication Request message, but receipt of this message would normally result in a Transfer Communication message being transmitted by the transferring unit when the flight is instructed to contact the receiving unit.	

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11.4.2.5.15	The Transfer Communication message shall indicate that the controller in the transferring unit has instructed the flight to establish communication with the controller in the accepting unit. On receipt of this message the controller in the receiving unit shall ensure that communication is established shortly thereafter. The Transfer Communication message may optionally include any "release conditions" for the transfer of control. These release conditions may include climb, descent or turn restrictions, or a combination thereof. If a Transfer Initiate message has not been previously sent, the Transfer Communication message initiates the transfer phase.	
11.4.2.5.16	The Transfer Communication Assume message shall be transmitted by the accepting unit to indicate that the flight has established communications with the appropriate controller and completes the transfer.	
11.4.2.5.17.1	The Transfer Control message is a proposal for the transfer of control of a flight to the accepting unit. This message shall be transmitted either automatically by the transferring unit at, or prior to, an agreed time or distance before the common boundary, or manually by the controller in the transferring unit. This message, initiating the transfer phase, shall be transmitted only after coordination has been successfully completed with the receiving unit.	
11.4.2.5.17.2	The operational response to a Transfer Control message is a Transfer Control Assume message.	
11.4.2.5.18	The Transfer Control Assume message shall indicate that the controller in the accepting unit has accepted control responsibility for the flight. The receipt of this message completes the transfer of control process.	
11.4.2.5.19	The General Point message shall be transmitted to draw the attention of the controller receiving the message to a flight to support voice coordination. The General Point message shall include details of a flight that may have been previously unknown to the receiving unit, to permit it to be displayed if required. This may include, for example, a flight that had planned to operate in airspace under the control of one ATS unit requesting climb or diversion into	

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	airspace controlled by another ATS unit which has no details of the flight.	
11.4.2.5.20.1	The General Executive Data message shall be sent after the transition to the transfer state has commenced and prior to the Transfer Control Assume or Transfer Communication Assume messages, either by the transferring unit to the receiving unit or from the receiving unit to the transferring unit, to inform the unit receiving the message of any modification to data relating to the control environment of a flight. If the General Executive Data message is sent by the transferring unit, it may include information such as the current cleared (intermediate) flight level and, if applicable, speed restrictions, climb/descent restrictions and the heading (or direct routing) assigned to the flight. If the General Executive Data message is sent by the receiving unit, it includes the radiotelephony frequency or channel as appropriate to which the flight is to be transferred.	
11.4.2.5.20.2	There is no operational response required for the General Executive Data message.	
11.4.2.5.21	*Note.— See 11.4.1.4 for details on Free Text Emergency messages.*	
11.4.2.5.21	The Free Text General message shall only be used to transmit operational information for which any other message type is not appropriate, and for plain-language statements. Normally free text information would be presented directly to the controller responsible — or expecting to be responsible — for the flight. When the message does not refer to a specific flight, a facility designation shall be used to allow for the information to be presented to the appropriate ATS position.	
11.4.2.5.22	Except for another application management message, or a message within which an error has been detected, the Application Accept message shall be sent by an ATS unit receiving an AIDC message that has been processed, found free of	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	errors and is available for presentation to a control position.	
11.4.2.5.23.1	The Application Reject message shall be sent by an ATS unit receiving an AIDC message within which an error has been detected. The Application Reject message shall include a code that enables identification of the nature of the error. Regional air navigation agreement shall be the basis for specifying the codes that are available to be implemented.	
11.4.2.5.23.1	*Note.— Information concerning the available ATN application reject codes can be found in the* Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705), Volume III, 3.2.7.1.1.*	
11.4.2.5.23.2	When Application Reject messages are not in use, local procedures shall ensure that the appropriate controller is alerted within a specified time parameter where no Application Accept message has been received in response to a transmitted AIDC message.	
11.4.2.6.1	Control messages comprise: — clearance messages (11.4.2.6.2) — flow control messages (11.4.2.6.3) — position-report and air-report messages (11.4.2.6.4).	
11.4.2.6.2	*Note.— Provisions governing clearances are contained in Chapter 4, Section 4.5. The following paragraphs set forth the contents of clearance messages together with certain procedures relating to the transmission thereof.* *Procedures governing the use of CPDLC for the delivery of clearances are contained in Chapter 14. Specifications regarding the intent, message attributes and display options can be found in Chapter 14, Table 14-1 to Table 14-4 and* *Appendix 5.*	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
11.4.2.6.2.1	Clearances shall contain the following in the order listed: a) aircraft identification; b) clearance limit; c) route of flight; d) level(s) of flight for the entire route or part thereof and changes of levels if required;	Provision identical to Section 3.7.1.1 of Annex 11, it is transposed as ATS IR ATS.TR.235(b). Transposed also as SERA.8015(d).
11.4.2.6.2.1	*Note.— If the clearance for the levels covers only part of the route, it is important for the air traffic control unit to specify a point to which the part of the clearance regarding levels applies whenever necessary to ensure compliance with 3.6.5.2.2 a) of Annex 2.*	
11.4.2.6.2.1	e) any necessary instructions or information on other matters such as SSR transponder operation, approach or departure manoeuvres, communications and the time of expiry of the clearance.	
11.4.2.6.2.1	*Note.— The time of expiry of the clearance indicates the time after which the clearance will be automatically cancelled if the flight has not been started.*	
11.4.2.6.2.2	Instructions included in clearances relating to levels shall consist of: a) cruising level(s) or, for cruise climb, a range of levels, and, if necessary, the point to which the clearance is valid with regard to the level(s);	It is transposed as AMC1 ATS.TR.235(b)(4).
11.4.2.6.2.2	*Note.— See 11.4.2.6.2.1 d) and associated Note.*	Not transposed.
11.4.2.6.2.2	b) levels at which specified significant points are to be crossed, when necessary; c) the place or time for starting climb or descent, when necessary; d) the rate of climb or descent, when necessary;	It is transposed as AMC1 ATS.TR.235(b)(4).

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	e) detailed instructions concerning departure or approach levels, when necessary.	
11.4.2.6.2.3	It is the responsibility of the aeronautical station or aircraft operator who has received the clearance to transmit it to the aircraft at the specified or expected delivery time, and to notify the air traffic control unit promptly if it is not delivered within a specified period of time.	
11.4.2.6.2.4	Personnel receiving clearances for transmission to aircraft shall transmit such clearances in the exact phraseology in which they are received. In those cases where the personnel transmitting the clearances to the aircraft do not form part of the air traffic services, it is essential that appropriate arrangements be made to meet this requirement.	
11.4.2.6.2.5	Level restrictions issued by ATC in air-ground communications shall be repeated in conjunction with subsequent level clearances in order to remain in effect.	
11.4.2.6.2.5	*Note.— See also Chapter 6, 6.3.2.4 and 6.5.2.4, regarding level restrictions published as elements of SIDs and STARs.*	
11.4.2.6.3	*Note 1.— Provisions governing the control of air traffic flow are set forth in Annex 11, 3.7.5 and in Chapter 3, 3.2.5.2 of this document. Attention is drawn, however, to the guidance material contained in the* Air Traffic Services Planning Manual *(Doc 9426) regarding flow control.*	
11.4.2.6.3	*Note 2.— Format and data conventions for automated interchange of flow control messages have not yet been developed.*	
11.4.2.6.4	*Note.— Provisions governing position reporting are set forth in Annex 2, 3.6.3 and 5.3.3, and in Chapter 4, Sections 4.11 and 4.12 of this document.*	

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11.4.2.6.4.1	The format and data conventions to be used in position-report and special air-report messages are those specified on the model AIREP SPECIAL form at Appendix 1, using: a) for position-report messages: Section 1; b) for special air-report messages: Section 1 followed by Sections 2 and/or 3 as relevant.	
11.4.2.6.4.2	Where special air-report messages transmitted by voice communications are subsequently forwarded by automatic data-processing equipment which cannot accept the special air-report message type designator ARS, the use of a different message-type designator shall be permitted by regional air navigation agreement and should be reflected in the *Regional Supplementary Procedures* (Doc 7030) provided that: a) the data transmitted accord with that specified in the special air-report format; and b) measures are taken to ensure that special air-report messages are forwarded to the appropriate meteorological unit and to other aircraft likely to be affected.	
11.4.3.1	*Note.— Provisions governing the issuance of traffic information are set forth in Annex 11, 4.2.2 b) and Notes 1 and 2 and in Chapter 5, Section 5.10, and Chapter 7, Section 7.4.1 of this document.*	
11.4.3.1.1.1	Due to the factors influencing the nature of the flight information services, and particularly the question of provision of information on possible collision hazards to aircraft operating outside controlled airspace, it is not possible to specify standard texts for these messages.	
11.4.3.1.1.2	Where such messages are transmitted they shall, however, contain sufficient data on the direction of flight and the estimated time, level and point at which the aircraft involved in the possible collision hazard will pass, overtake or	

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	approach each other. This information shall be given in such a way that the pilot of each aircraft concerned is able to appreciate clearly the nature of the hazard.	
11.4.3.1.2	Whenever such messages are transmitted they shall contain the following text: a) identification of the aircraft to which the information is transmitted; b) the words TRAFFIC IS or ADDITIONAL TRAFFIC IS; c) direction of flight of aircraft concerned; d) type of aircraft concerned; e) cruising level of aircraft concerned and ETA for the significant point nearest to where the aircraft will cross levels.	
11.4.3.1.3	Whenever such messages are transmitted they shall contain the following text: a) identification of the aircraft to which the information is transmitted; b) the words TRAFFIC IS or ADDITIONAL TRAFFIC IS, if necessary; c) description of the essential local traffic in terms that will facilitate recognition of it by the pilot, e.g. type, speed category and/or colour of aircraft, type of vehicle, number of persons; d) position of the essential local traffic relative to the aircraft concerned, and direction of movement.	
11.4.3.2	*Note.— Provisions governing the making and reporting of aircraft observations are contained in Annex 3. Provisions concerning the contents and transmission of air-reports are contained in Chapter 4, Section 4.12 of this document, and the* *special air-report of volcanic activity form used for reports of volcanic activity is shown in Appendix 1 to this document. The transmission by ATS units, to meteorological offices, of meteorological information received from aircraft in flight is governed by provisions in Chapter 4, Section 4.12.6 of this document. Provisions governing the transmission by ATS units of meteorological information to aircraft are set forth in Annex 11, 4.2 and in this document (see*	

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	Chapter 4, 4.8.3 and 4.10.4; Chapter 6, Sections 6.4 and 6.6; Chapter 7, 7.4.1; and Chapter 9, 9.1.3). The written forms of SIGMET and AIRMET messages and other plain-language meteorological messages are governed by the provisions of Annex 3.	
11.4.3.2.1	Information to a pilot changing from IFR flight to VFR flight where it is likely that flight in VMC cannot be maintained shall be given in the following manner: "INSTRUMENT METEOROLOGICAL CONDITIONS REPORTED (or forecast) IN THE VICINITY OF (location)".	
11.4.3.2.2	Meteorological information concerning the meteorological conditions at aerodromes, to be transmitted to aircraft by the ATS unit concerned, in accordance with Annex 11, Chapter 4 and this document, Chapter 6, Sections 6.4 and 6.6 and Chapter 7, Section 7.4.1, shall be extracted by the ATS unit concerned from the following meteorological messages, provided by the appropriate meteorological office, supplemented for arriving and departing aircraft, as appropriate, by information from displays relating to meteorological sensors (in particular, those related to the surface wind and runway visual range) located in the ATS units: a) local meteorological routine and special reports; b) METAR/SPECI, for dissemination to other aerodromes beyond the aerodrome of origin (mainly intended for flight planning, VOLMET broadcasts and D-VOLMET).	
11.4.3.2.3	The meteorological information referred to in 11.4.3.2.2 shall be extracted, as appropriate, from meteorological reports providing information on the following elements: a) mean surface wind direction and speed and significant variations therefrom;	
11.4.3.2.3	*Note.— Information on surface wind direction provided to ATS units by the associated meteorological office is referenced to degrees true North. Information on surface wind direction obtained from the ATS surface wind*	

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	indicator and passed to pilots by ATS units is given in degrees magnetic.	
11.4.3.2.3	b) visibility, including significant directional variations; c) runway visual range (RVR); d) present weather; e) amount and height of base of low cloud; f) air temperature and dew-point temperature; g) altimeter setting(s); and h) supplementary information.	
11.4.3.2.3	*Note. — Provisions relating to meteorological information to be provided in accordance with 11.4.3.2.3 are contained in Annex 3* — Meteorological Service for International Air Navigation, *Chapter 4 and Appendix 3.*	
11.4.3.3	*Note.— General provisions concerning this subject are set forth in Annex 11, 4.2.*	
11.4.3.3	Messages concerning the operation of aeronautical facilities shall be transmitted to aircraft from whose flight plan it is apparent that the operation of the flight may be affected by the operating status of the operating facility concerned. They shall contain appropriate data on the service status of the facility in question, and, if the facility is out of operation, an indication when the normal operating status will be restored.	
11.4.3.4	*Note.— Provisions regarding the issuance of information on aerodrome conditions are contained in Chapter 7, 7.5.*	
11.4.3.4.1	Whenever information is provided on aerodrome conditions, this shall be done in a clear and concise manner so as to facilitate appreciation by the pilot of the	

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	situation described. It shall be issued whenever deemed necessary by the controller on duty in the interest of safety, or when requested by an aircraft. If the information is provided on the initiative of the controller, it shall be transmitted to each aircraft concerned in sufficient time to enable the pilot to make proper use of the information.	
11.4.3.4.2	Whenever information is provided concerning runway surface conditions that may adversely affect aircraft braking action, the following terms shall be used, as necessary: COMPACTED SNOW DRY DRY SNOW DRY SNOW ON TOP OF COMPACTED SNOW. DRY SNOW ON TOP OF ICE. FROST ICE SLUSH STANDING WATER WATER ON TOP OF COMPACTED SNOW WET WET ICE WET SNOW WET SNOW ON TOP OF COMPACTED SNOW. WET SNOW ON TOP OF ICE.	Modifications (modified text) introduced with ICAO AN-WP/9014.

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11.4.3.4.3	Appropriate ATS units shall have available for transmission to aircraft, upon request, the Runway Condition Report information. This shall be passed to aircraft in the order of the direction of landing or take-off.	Modifications (modified text) introduced with ICAO AN-WP/9014.
11.4.3.5	When an aircraft involved in an incident has a destination outside the area of responsibility of the ATS unit where the incident occurred, the ATS unit at the destination aerodrome should be notified and requested to obtain the pilot's report. The following information should be included in the message: a) type of incident (AIRPROX, procedure or facility); b) identification of the aircraft concerned; c) time and position at time of incident; d) brief details of incident.	
12	PHRASEOLOGIES	With the exception of Section 12.3.5, addressing coordination between ATS units, and of section 12.2.7 addressing the issue of conditional clearances, provisions in Chapter 12 'Phraseologies' are not transposed within Part-ATS, as they are included in the SERA Regulation. Modifications (modified text) introduced with ICAO AN-WP/9014 to be considered by SERA.
12.1	COMMUNICATIONS PROCEDURES The communications procedures shall be in accordance with Volume II of Annex 10 — *Aeronautical Telecommunications*, and pilots, ATS personnel and other ground personnel shall be thoroughly familiar with the radiotelephony procedures contained therein.	
12.2	GENERAL *Note.— Requirements for readback of clearances and safety-related information are provided in Chapter 4, 4.5.7.5.*	

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12.2.1	Most phraseologies contained in Section 12.3 of this Chapter show the text of a complete message without call signs. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use plain language, which should be as clear and concise as possible, to the level specified in the ICAO language proficiency requirements contained in Annex 1 — *Personnel Licensing*, in order to avoid possible confusion by those persons using a language other than one of their national languages.	
12.2.2	The phraseologies are grouped according to types of air traffic service for convenience of reference. However, users shall be familiar with, and use as necessary, phraseologies from groups other than those referring specifically to the type of air traffic service being provided. All phraseologies shall be used in conjunction with call signs (aircraft, ground vehicle, ATC or other) as appropriate. In order that the phraseologies listed should be readily discernible in Section 12.3, call signs have been omitted. Provisions for the compilation of RTF messages, call signs and procedures are contained in Annex 10, Volume II, Chapter 5.	
12.2.3	Section 12.3 includes phrases for use by pilots, ATS personnel and other ground personnel.	
12.2.4	During operations in or vertical transit through reduced vertical separation minimum (RVSM) airspace with aircraft not approved for RVSM operations, pilots shall report non-approved status in accordance with 12.3.1.12 c) as follows: a) at initial call on any channel within RVSM airspace; b) in all requests for level changes; and c) in all readbacks of level clearances.	

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12.2.5	Air traffic controllers shall explicitly acknowledge receipt of messages from aircraft reporting RVSM non-approved status.	
12.2.6	Phraseologies for the movement of vehicles, other than tow-tractors, on the manoeuvring area shall be the same as those used for the movement of aircraft, with the exception of taxi instructions, in which case the word "PROCEED" shall be substituted for the word "TAXI" when communicating with vehicles.	
12.2.7	Conditional phrases, such as "behind landing aircraft" or "after departing aircraft", shall not be used for movements affecting the active runway(s), except when the aircraft or vehicles concerned are seen by the appropriate controller and pilot. The aircraft or vehicle causing the condition in the clearance issued shall be the first aircraft/vehicle to pass in front of the other aircraft concerned. In all cases a conditional clearance shall be given in the following order and consist of: a) the call sign ; b) the condition; c) the clearance; and d) brief reiteration of the condition, for example: "SAS 941, BEHIND DC9 ON SHORT FINAL, LINE UP BEHIND".	It is transposed as ATS IR ATS.TR.230(f). Transposed also as SERA.8015(ec). Modifications (modified text) introduced with ICAO AN-WP/9014 to be considered by SERA.
12.2.7	*Note.— This implies the need for the aircraft receiving the conditional clearance to identify the aircraft or vehicle causing the conditional clearance.*	
12.2.8	The phraseology in Section 12.3 does not include phrases and regular radiotelephony procedure words contained in Annex 10, Volume II.	

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12.2.9	Words in parentheses indicate that specific information, such as a level, a place or a time, etc., must be inserted to complete the phrase, or alternatively that optional phrases may be used. Words in square parentheses indicate optional additional words or information that may be necessary in specific instances.	
12.2.10	Examples of the application of the phraseologies may be found in the *Manual of Radiotelephony* (Doc 9432).	
12.3	**ATC phraseologies** (not included in this Checklist)	ATS IR ATS.TR.230(b)(7) is introduced to address the use of standard phraseologies for coordination between ATS units/sectors. Section 12.3.5, not included in this checklist, is transposed as AMC1 ATS.TR.230(b)(7).
12.3	**ATS Surveillance service phraseologies** (not included in this Checklist)	Not transposed
13	AUTOMATIC DEPENDENT SURVEILLANCE CONTRACT (ADS-C) SERVICES	Provisions in Chapter 13 are not transposed within Part-ATS, as they are not considered suitable to the EU context, being applied to operations in oceanic airspace.
	Note.— Guidance material concerning the implementation of ADS-C is contained in the Global Operational Data Link (GOLD) Manual (Doc 10037).	Modifications (New note) introduced with ICAO AN-WP/9014.
13.1	The provision of air traffic services to aircraft, based on information received from aircraft via ADS-C, is generally referred to as the provision of ADS-C services.	
13.2	ADS-C GROUND SYSTEM CAPABILITIES	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
13.2.1	ADS-C ground systems used in the provision of air traffic services shall have a very high level of reliability, availability and integrity. The possibility of system failures or significant system degradations that may cause complete or partial interruptions of service shall be very remote. Backup facilities shall be provided.	
13.2.1	*Note 1.— An ADS-C ground system will normally consist of a number of integrated elements, including communication interfaces, a data-processing system and one or more controller interfaces.*	
13.2.1	*Note 2.— Information pertaining to use of ADS-C and to system reliability, availability and integrity is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).*	Modifications (modified text) introduced with ICAO AN-WP/9014.
13.2.2	ADS-C ground systems should be capable of integration with other automated systems used in the provision of ATS and should provide for an appropriate level of automation with the objectives of improving the accuracy and timeliness of data displayed to the controller and reducing controller workload and the need for verbal coordination between adjacent control positions and ATC units.	
13.2.3	Several significant functional requirements are necessary to permit the effective implementation of an ADS-C service in a CNS/ATM environment. Ground systems shall provide for: a) the transmitting, receiving, processing and displaying of ADS-C messages related to flights equipped for and operating within environments where ADS-C services are being provided; b) the display of safety-related alerts and warnings; c) position monitoring (the aircraft's current position as derived from ADS-C reports is displayed to the controller for air traffic situation monitoring); d) conformance monitoring (the ADS-C reported current position or projected profile is compared to the expected aircraft position, which is based on the	

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	current flight plan. Along track, lateral and vertical deviations that exceed a pre-defined tolerance limit will permit an out-of-conformance alert to be issued to the controller); e) flight plan update (e.g. longitudinal variations that exceed pre-defined tolerance limits will be used to adjust expected arrival times at subsequent fixes); f) intent validation (intent data contained in ADS-C reports, such as extended projected profile, are compared with the current clearance and discrepancies are identified); g) conflict detection (the ADS-C data can be used by the ADS-C ground system automation to identify violations of separation minima); h) conflict prediction (the ADS-C position data can be used by the ADS-C ground system automation to identify potential violations of separation minima); i) tracking (the tracking function is intended to extrapolate the current position of the aircraft based on ADS-C reports); j) wind estimation (ADS-C reports containing wind data may be used to update wind forecasts and hence expected arrival times at waypoints); and k) flight management (ADS-C reports may assist automation in generating optimum conflict-free clearances to support possible fuel-saving techniques, such as cruise climbs, requested by the operators).	
13.2.3	*Note.— The use of ADS-C does not relieve the controller of the obligation to continuously monitor the traffic situation.*	
13.2.4	The sharing of ADS-C information should be facilitated to the extent possible, in order to extend and improve surveillance in adjacent control areas, thereby reducing the need for additional ADS contracts to be supported by a given aircraft.	

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13.2.5	Automated exchange of coordination data relevant to aircraft being provided with an ADS-C service, and the establishment of automated coordination procedures shall be provided for on the basis of regional air navigation agreements.	
13.2.6	Air traffic control facilities providing an ADS-C service shall be capable of storing and disseminating specific flight information relating to flights equipped for and operating within environments where an ADS-C service is provided	
13.2.7	Effective human-machine interfaces shall exist for the controller to permit appropriate utilization of the ADS-C-derived information and associated automated features.	
13.3	Adequate information on the operating practices having a direct effect on the operations of air traffic services shall be published in aeronautical information publications. This shall include a brief description concerning the area of responsibility, requirements and conditions under which the ADS-C service is available, equipment limitations, ADS-C failure procedures, if required, and the initial address(es) for each ATC unit.	
13.4.1.1	ADS-C may be used in the provision of an air traffic control service, provided identification of the aircraft is unambiguously established.	
13.4.1.2	Flight data processing of ADS-C data may be used in the provision of an air traffic control service, provided the correlation between the ADS-C data downlinked by that aircraft and the flight plan details held for the aircraft has been accomplished.	
13.4.1.2	*Note.— A combination of information received from the aircraft may be necessary to ensure unambiguous correlation, e.g. departure aerodrome, estimated off-block time (EOBT), and destination aerodrome might be used.*	

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13.4.1.3	Human Factors principles shall be observed. In particular, the controller shall be provided with enough information to: a) maintain situational awareness; and b) be capable of assuming, in the event of system malfunction, the minimum tasks for the provision of an air traffic control service, normally performed by automation.	
13.4.1.3	*Note 1.— Automated systems, while designed to provide high operational integrity, remain susceptible to error and failure. Human participation is integral to the safety of the air traffic system.*	
13.4.1.3	*Note 2.— Guidance material on Human Factors principles can be found in the* Human Factors Training Manual *(Doc 9683),* Human Factors Digest No. 8 — Human Factors in Air Traffic Control *(Circular 241), and* Human Factors Digest No. 11 — Human Factors in CNS/ATM Systems *(Circular 249).*	
13.4.1.4	Information provided by the ground system may be used by the controller to perform the following functions in the provision of air traffic control services: a) enhance safety; b) maintain an accurate awareness of the air traffic situation; c) apply separation minima; d) take appropriate action regarding any significant deviation by aircraft from the terms of their respective air traffic control clearances, including their cleared routes, levels and speed when appropriate;	
13.4.1.4	*Note.— Where tolerances regarding such matters as adherence to 3-D position, speed or time have been prescribed by the appropriate ATS authority, deviations are not considered significant until such tolerances are exceeded.*	

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13.4.1.4	e) provide updated position information regarding aircraft to other controllers when required; and f) improve airspace utilization, reduce delays, as well as provide for direct routings and more optimum flight profiles.	
13.4.2.1	Appropriate ADS-C data shall be presented to the controller in a manner suitable to achieve the control functions in 13.4.1.4. Display systems shall incorporate a situation display, textual information display, aural and visual alerts in such combinations as deemed appropriate.	
13.4.2.2	Display systems may display actual ADS-C report information only or a combination of actual ADS-C report information and data derived from ADS-C reports. Additionally, display systems may incorporate surveillance information from a number of other sources, including data derived from radar, ADS-B, the flight data processing system (FDPS) and/or CPDLC or voice position reports.	
13.4.2.2.1	Where surveillance information is derived from different sources, the type of surveillance shall be readily apparent to the controller.	
13.4.2.3	ADS information available to the controller on a situation display shall, as a minimum, include ADS position indications and map information.	
13.4.2.3.1	When applicable, distinct symbols should be used to differentiate presentation of position indications which are derived from: a) ADS-C position reports; or b) combinations of ADS-C with information derived from other surveillance sources, e.g. PSR, SSR, ADS-B; or c) ADS-C extrapolations.	
13.4.2.3.2	Labels used to provide ADS-C-derived information and any other information that may be available shall, as a minimum, be displayed in alphanumeric form.	

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13.4.2.3.3	Label information shall, as a minimum, include aircraft identification and level information. All label information shall be presented in a clear and concise manner. Labels shall be associated with their ADS-C position indications in a manner precluding erroneous identification.	
13.4.2.4	When ADS-C reports are queued, the controller shall be given an indication that more urgent reports are available based on the following order of priority: a) emergency and/or urgency mode ADS-C reports; b) event or demand ADS-C reports; and then c) periodic ADS-C reports.	
13.4.2.4.1	If more than one ADS-C report is queued in any one of a), b) or c) above, they shall be handled in the order received.	
13.4.2.5	Safety-related alerts and warnings, including emergency/urgent reports, shall be presented in a clear and distinct manner. Provisions shall be made for alerting the controller when expected ADS-C reports are not received within an appropriate time.	
13.4.2.5	*Note.— Non-receipt of ADS-C event contract reports may be undetectable.*	
13.4.3.1	The number of aircraft simultaneously provided with ADS-C services shall not exceed that which can safely be handled under the prevailing circumstances, taking into account: a) the complexity of the traffic situation and associated workload within the sector or area of responsibility of the controller; b) the level of automation of the ADS-C ground system; c) the overall technical performance of the ADS-C systems and communications systems, including possible degradations that would require use of backup	

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	facilities; d) the overall performance of the backup surveillance and communications systems; and e) the effect of loss of controller-pilot communications.	
13.4.3.2.1	Appropriate arrangements shall be made in and between any ATC units using ADS-C to ensure the coordination of ADS-C and non-ADS-C traffic and to ensure the provision of adequate separation between the ADS-C aircraft and all other aircraft.	
13.4.3.2.2	Transfer of control shall be effected so as to facilitate uninterrupted provision of ADS-C services where ADS-C is available in adjacent ATC units.	
13.4.3.2.3	The accepting ATC unit shall establish a contract with the affected aircraft prior to reaching the transfer of control point. Should the accepting ATC unit be unable to establish a contract, the transferring ATC unit shall be notified in order to provide ground forwarding of ADS-C data to permit an uninterrupted ADS-C service.	
13.4.3.2.4	When an aircraft is in an emergency/urgency mode or is the subject of safety alerts or warnings, this information shall be provided to the accepting ATC unit, and the ADS contract shall not be terminated by the transferring ATC unit until appropriate coordination has been effected.	
13.4.3.2.5	Transfer of control of aircraft between adjacent control positions or between adjacent ATC units may be effected as follows: a) appropriate ADS-C transfer protocols are observed by: 1) designation of the ADS-C position indication by automated means; or 2) direct designation of the ADS-C position indication if two display systems are adjacent or if a common (conference) type of display is used; or 3) designation of the ADS-C position indication by reference to a position	

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	accurately indicated on both display systems; b) updated flight plan information on the aircraft about to be transferred is provided to the accepting controller prior to transfer; c) when controllers are not physically adjacent, direct communications facilities are available between them at all times;	
13.4.3.2.5	*Note.— This requirement may be met by two-way direct speech facilities or ATS interfacility data communications (AIDC).*	
13.4.3.2.5	d) the transfer point or points and all other conditions of application have been made the subject of specific instructions or a specific letter of agreement; and e) the accepting controller is kept current of all control instructions (e.g. level or speed instructions) given to the aircraft prior to its transfer and which modify its anticipated flight progress.	
13.4.3.2.5	*Note.— This requirement may be met by two-way direct speech facilities or ATS interfacility data communications (AIDC).*	
13.4.3.2.6	The minimum agreed separation between aircraft about to be transferred shall be as specified in letters of agreement or local instructions, as appropriate.	
13.4.3.3	Controller-pilot communications shall be such that the possibility of communications failure or significant degradations is very remote. Adequate backup facilities shall be provided.	
13.4.3.4	GENERAL ADS-C PROCEDURES	Modifications (modified text) introduced with ICAO AN-WP/9014.
13.4.3.4.1.1	Only appropriate ATC units shall initiate ADS contracts with a given aircraft. Procedures shall ensure that non-current contracts are terminated in a timely manner.	

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13.4.3.4.1.2	The ADS-C ground system shall be able to identify the ADS-C capability of the aircraft and establish appropriate ADS contracts with ADS-C-equipped aircraft.	
13.4.3.4.1.3	ADS contracts necessary for the control of the aircraft will be established with each aircraft by the relevant ADS-C ground system, at least for the portions of the aircraft flight over which that ATC unit provides air traffic services.	
13.4.3.4.1.4	The contract may include the provision of basic ADS-C reports at a periodic interval defined by the ADS-C ground system with, optionally, additional data containing specific information, which may or may not be sent with each periodic report. The agreement may also provide for ADS-C reports at geographically defined points such as waypoints, in addition to other specific event-driven reports.	
13.4.3.4.1.5	The aircraft must be capable of supporting ADS-C agreements with at least four ATC unit ADS-C ground systems simultaneously.	
13.4.3.4.1.5.1	When an ADS-C ground system attempts to establish an ADS-C agreement with an aircraft and is unable to do so due to the aircraft's inability to support an additional ADS contract, the aircraft should reply with the ICAO location indicators or eight-letter facility indicators of the ground systems with which it currently has contracts, in order for the ATC unit to negotiate a contract release. In the event that this information cannot be provided to the ground system, the ground system shall nevertheless alert the controller that an ADS agreement cannot be established. Coordination between the appropriate ATC units shall then be effected for the purpose of establishing priority for ADS-C connections with the aircraft.	
13.4.3.4.1.6	An ATC unit shall be capable of replacing or terminating its own ADS contract(s) as required. An existing contract shall remain in place until any new contract of the same type is accepted by the aircraft or until the contract type is terminated.	

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13.4.3.4.2.1	ADS contracts may be terminated manually, or automatically by the ADS-C ground system, based on agreements between ATS authorities for aircraft crossing FIR boundaries.	
13.4.3.4.2.2	ATS authorities shall establish procedures to ensure that ADS contracts are re-established as required when unplanned ADS-C termination occurs.	
13.4.3.4.3.1	Except as provided for in 13.4.3.4.3.2, initial ADS-C agreements shall be determined by the ATS authority. Subsequent modifications to individual contracts may be made at the discretion of the ATS unit.	
13.4.3.4.3.2	In airspace where procedural separation is being applied, ADS-C agreements shall, as a minimum, contain the following ADS contracts: a) a periodic contract at an interval appropriate to the airspace requirements; b) an event contract, specifying the following: 1) a waypoint change event; 2) a lateral deviation event contract; and 3) a level range deviation event contract.	Modifications (modified text) introduced with ICAO AN-WP/9014.
13.4.3.4.3.2	*Note — A vertical rate change event specified at, for example, a negative vertical rate (i.e. a descent) exceeding 27 m/s (5 000 ft/min), may provide an additional indication of an abnormal situation.*	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
13.4.3.4.3.3	Upon receipt of an event report indicating a deviation from the cleared profile, the ATC unit shall establish a periodic contract at a reduced reporting interval, as deemed appropriate, requesting the ground vector data block in addition to ADS-C basic data block. The ATC unit shall advise	Modifications (New provision) introduced with ICAO AN-WP/9014.
13.4.3.4.3.4	The reduced ADS-C periodic reporting interval shall be retained until it has been established that the aircraft is on a cleared profile, at which time the event	Modifications (New provision) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	contract shall be re-established and the normal periodic contract restored. Action should be taken by the ATC unit to notify proximate aircraft if appropriate.	
13.4.3.4.3.5	When the application of specified separation minima is dependent on the reporting interval of periodic position reports, the ATC unit shall not establish periodic contracts with a reporting interval greater than the required reporting interval.	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
13.4.3.4.3.6	Where an expected position report is not received within a prescribed time parameter, action shall be taken, as appropriate, to ascertain the position of the aircraft.	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
13.4.3.4.3.6	*Note 1.— This may be achieved by the use of an ADS demand contract, CPDLC or voice communications, or receipt of a subsequent periodic report.*	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
13.4.3.4.3.6	*Note 2.— Requirements concerning the provision of an alerting service are contained in Chapter 9.*	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
13.4.3.4.4.1	An ATC unit providing an ADS-C service to an aircraft shall check the ADS-C three-dimensional position information received from that aircraft through pilot reports and/or flight plan conformance.	
13.4.3.4.4.2	The pilot of the aircraft whose ADS-C-derived position information is within the approved tolerance value need not be advised of such verification.	
13.4.3.4.4.3	If the displayed position information is not within the approved tolerance value, or when a discrepancy in excess of the approved tolerance value is detected subsequent to verification, the pilot shall be advised accordingly and requested to check the aircraft's navigation system.	
13.4.3.4.4.4	The controller shall adjust the display(s) and carry out adequate checks on the accuracy thereof, in accordance with instructions prescribed by the appropriate authority responsible for the ADS-C display or integrated display system	

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	concerned.	
13.4.3.4.4.5	The controller shall be satisfied that the functional capabilities of the ADS-C display system or integrated display system, as well as the information displayed, is adequate for the functions to be performed.	
13.4.3.4.4.6	The controller shall report, in accordance with local procedures, any fault in the equipment or any incident requiring investigation or any circumstances which make it difficult or impractical to provide services on the basis of displayed ADS-C positions.	
13.4.3.4.5	*Note.— To indicate that it is in a state of emergency or the state of emergency is terminated, an aircraft equipped with ADS-C might operate the emergency mode as follows:* *a) emergency;* *b) communication failure;* *c) unlawful interference;* *d) minimum fuel; and/or* *e) medical.*	Modifications (amended text) introduced with ICAO AN-WP/9014.
13.4.3.4.5	EMERGENCY REPORTS	Modifications (amended text) introduced with ICAO AN-WP/9014.
	Note.— To indicate that it is in a state of emergency or the state of emergency is terminated, an aircraft equipped with ADS-C might operate the emergency mode as follows: *a) emergency; and* *b) emergency cancelled.*	Modifications (amended text) introduced with ICAO AN-WP/9014.

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13.4.3.4.5.1	When an ADS-C report is received with an emergency status indication, the controller with responsibility for the flight must acknowledge receipt of the information by the most appropriate means of communication.	Modifications (additional text) introduced with ICAO AN-WP/9014.
13.4.3.4.5.2	Both the aircraft and the ADS-C ground system shall be capable of supporting an emergency mode of ADS-C operation to assist ATC alerting procedures and to assist search and rescue operations. In the event of an aircraft in, or appearing to be in, any form of emergency, all possible assistance shall be provided by the controller.	Modifications (amended text) introduced with ICAO AN-WP/9014.
13.4.3.4.5.2	*Note.— The ADS-C airborne system will provide for a pilot-initiated emergency mode. It may also permit the aircraft to automatically establish the emergency mode.*	Modifications (amended text) introduced with ICAO AN-WP/9014.
13.4.3.4.5.3	The ADS-C ground system shall recognize the initiation, modification and termination of an emergency mode and alert the controller. The ADS-C ground system shall be able to modify the emergency reporting rate if necessary. The ADS-C ground system shall be able to suppress an emergency indication.	Modifications (amended text) introduced with ICAO AN-WP/9014.
13.4.3.4.6	*Note.— It is not expected that the pilot will be made aware of any failure of ADS-C by means of on-board monitoring equipment.*	
13.4.3.4.6.1.1	On receipt of an airborne failure notification, the controller will: a) advise the pilot of the failure; b) advise the pilot of the requirement for position reports via voice or CPDLC; and c) take necessary action to establish alternative separation, if required.	
13.4.3.4.6.1.2	When an aircraft experiencing ADS-C failure after departure is operating or expected to operate in an area where the carriage of functional ADS-C with specified capabilities is mandatory, the ATC units concerned should endeavour to provide for continuation of the flight to the aerodrome of first intended	

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	landing in accordance with the flight plan. However, under some circumstances, continuation of the flight may not be possible due to traffic or airspace configuration. The aircraft may then be required to return to the departure aerodrome or to land at the nearest suitable aerodrome acceptable to the operator concerned.	
13.4.3.4.6.1.3	In the case of an ADS-C failure that is detected before departure from an aerodrome where it is not practicable to effect a repair, the aircraft concerned should be permitted to proceed, as directly as possible, to the nearest suitable aerodrome where repair can be made. When granting clearance to such aircraft, the air traffic control unit should take into consideration the existing or anticipated traffic situation and may have to modify the time of departure, flight level or route of the intended flight. Subsequent adjustments may become necessary during the course of the flight.	
13.4.3.4.6.2.1	When a planned shutdown of the ADS-C ground system occurs: a) a NOTAM shall be published to inform all affected parties of the shutdown period; b) position reports via voice or CPDLC shall be stipulated; and c) alternative separation shall be established, if required.	
13.4.3.4.6.2.2	In the event of an unplanned ADS-C ground system shutdown, the relevant ATS provider shall: a) inform all affected aircraft and advise them of the requirement for position reports via voice or CPDLC; b) take necessary action to establish alternative separation, if required; c) inform the adjacent ATS unit(s) by direct coordination; and d) inform all other relevant parties via the publication of a NOTAM, if appropriate.	

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13.5.1	*Note.— In an ADS-C-based air traffic control (ATC) system, the accuracy of the positional information displayed to the controller is dependent upon the aircraft's on-board navigation or positioning system. Therefore, any aircraft system degradation that affects the aircraft's navigational capabilities will also affect the accuracy of the positional data displayed to the controller.*	
13.5.1.1	The procedures and minima in this section are applicable when ADS-C is used in the provision of air traffic control services.	
13.5.1.1.1	The use of ADS-C position reports to ensure separation shall only be applied when there is a reasonable assurance that the provision of ADS-C reports will not be interrupted.	
13.5.2.1	The tolerance value which shall be used to determine that the ADS-C level information displayed to the controller is accurate shall be ± 60 m (± 200 ft) in RVSM airspace. In other airspace, it shall be ± 90 m (± 300 ft), except that appropriate ATS authorities may specify a smaller criterion, but not less than ± 60 m (± 200 ft), if this is found to be more practical.	
13.5.2.2	If the ADS-C level information is not within the approved tolerance value, the information must be validated by voice or CPDLC. Where it has been established that the ADS-C level information is incorrect, the appropriate ATS authority shall determine the action to be taken regarding the display and use of this information.	
13.5.2.3	An aircraft cleared to leave a level is considered to have commenced its manoeuvre and vacated the previously occupied level when the ADS level information indicates a change of more than 90 m (300 ft) in the anticipated direction from its previously assigned level, or verification has been made by receipt of a CPDLC or voice report from the pilot.	
13.5.2.4	An aircraft that is climbing or descending is considered to have crossed a level when the ADS-C level information indicates that it has passed this level in the required direction by more than 90 m (300 ft) or that verification has been made	

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	by receipt of a CPDLC or voice report from the pilot.	
13.5.2.5	An aircraft that is climbing or descending is considered to have reached the level to which it has been cleared when verification has been made by receipt of the assigned level by CPDLC or a voice report from the pilot. The aircraft may then be considered to be maintaining this level for as long as the ADS-C level information remains within the appropriate tolerance values as specified in 13.5.2.1.	
13.5.2.5	*Note.— A level range deviation event contract may be used to monitor the continued compliance of the aircraft with the appropriate level tolerance values.*	
13.5.2.5.1	When CPDLC is to be used to verify that the aircraft has reached the level to which it has been cleared, the uplink message No. 129, REPORT MAINTAINING *(level),* or uplink message No. 200, REPORT REACHING, should be used.	
13.5.2.5.1	*Note.— Uplink message No. 175, REPORT REACHING (level), does not provide the same assurance that the aircraft has maintained the assigned level. On those occasions where the flight management system has been loaded by* *the pilot to reply automatically to this message, the reply may be sent when the aircraft reaches the assigned level, irrespective of whether the aircraft maintains the assigned level.*	
13.5.2.6	Where it is intended to provide vertical separation below a transition level using ADS-C level information, the appropriate authority shall ensure that such information is corrected to the appropriate barometric altitude.	
13.5.3	*APPLICATION OF HORIZONTAL SEPARATION USING ADS-C POSITION INFORMATION*	

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13.5.3	*Note 1.— Factors that the controller must take into account in determining the spacing to be applied in particular circumstances in order to ensure that the separation minimum is not infringed include aircraft relative headings and* *speeds, ADS-C technical limitations, controller workload and any difficulties caused by communications congestion.*	
13.5.3	*Note 2.— Information on the determination and application of separation minima is contained in the* Manual on Airspace Planning Methodology for the Determination of Separation Minima *(Doc 9689).*	
13.5.3.1	ADS-C-based longitudinal distance separation minima are detailed at 5.4.2.9 of Chapter 5.	Modifications (amended text) introduced with ICAO AN-WP/9014.
13.5.3.2	ATS authorities shall ensure that contingency procedures are available to be followed in the event of degradation of ADS-C information due to a loss of the required navigation performance accuracy.	
13.5.3.3	Distance-based separation minima for use with ADS-C may be applied between ADS-C-derived aircraft positions, or between ADS-C-derived positions and radar or ADS-B-derived positions. The positions of the aircraft shall be extrapolated or interpolated, as necessary, to ensure that they represent the positions of the aircraft at a common time.	
13.5.3.3.1	Displayed ADS-C position symbols should enable the controller to distinguish between reported, extrapolated or interpolated positions. When there is any doubt regarding the integrity of the information displayed as an extrapolated or interpolated position symbol, it shall be updated by a demand contract request.	
13.5.3.3.2	ADS-C-based separation shall not be applied between aircraft holding over the same holding fix. Application of horizontal separation between holding aircraft and other flights shall be subject to requirements and procedures prescribed by the appropriate ATS authority.	

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13.5.3.4	Information derived from the display of ADS-C information shall not be used to vector an aircraft.	
13.5.3.4	*Note.— Vectoring using* ADS-C *may be possible in the future in cases where the surveillance and communications performance are comparable to the performance of radar systems and direct voice communications using VHF.*	
14	CONTROLLER-PILOT DATA LINK COMMUNICATION (CPDLC)	Provisions in Chapter 14 are not transposed within Part-ATS; as they envisage collective pilot/ATS action, such provisions have to be considered by SERA.
14.1	GENERAL Note 1.— Provisions concerning CPDLC are contained in Annex 10, Volume II, Chapter 8.	Modifications (New note) introduced with ICAO AN-WP/9014.
	Note 2.— Guidance material concerning the implementation of CPDLC is contained in the Global Operational Data Link (GOLD) Manual *(Doc 10037).*	Modifications (New note) introduced with ICAO AN-WP/9014.
14.1.1	CPDLC provides a means of communication between the controller and pilot, using the CPDLC message set for ATC communication.	Modifications (modified text) introduced with ICAO AN-WP/9014.
14.1.2	This application includes a set of clearance/information/request message elements which correspond to the phraseologies used in the radiotelephony environment.	
14.1.2	*Note1— See Appendix 5 for the CPDLC message set which lists the message elements and their respective message intended use.*	Modifications (modified text) introduced with ICAO AN-WP/9014.
14.1.2	*Note 2.—Message element intent and text and associated procedures are, in general, consistent with Chapter 12 — Phraseologies. It is, however, recognized that the CPDLC message set and the associated procedures*	Modifications (added text) introduced with ICAO AN-WP/9014.

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	differ somewhat from the voice equivalent used because of the differences between the two media.	
14.1.3	The pilot and the controller shall be provided with the capability to exchange messages which include standard message elements, free text message elements or combinations of both.	Modifications (modified text and numbering) introduced with ICAO AN-WP/9014.
14.1.4	Ground and airborne systems shall allow for messages to be appropriately displayed, printed when required and stored in a manner that permits timely and convenient retrieval should such action be necessary.	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
14.1.4	Whenever textual presentation is required, the English language shall be displayed as a minimum.	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
14.2.1	CPDLC shall be established in sufficient time to ensure that the aircraft is communicating with the appropriate ATC unit. Information concerning when and, where applicable, where, the air or ground systems should establish CPDLC, shall be published in aeronautical information publications.	
14.2.2.1	When an ATC unit receives an unexpected request for CPDLC from an aircraft, the circumstances leading to the request shall be obtained from the aircraft to determine further action.	
14.2.2.2	When the ATC unit rejects a request for CPDLC, it shall provide the pilot with the reason for the rejection using an appropriate CPDLC message.	
14.2.3.1	An ATC unit shall only establish CPDLC with an aircraft if the aircraft has no CPDLC link established, or when authorized by the ATC unit currently having CPDLC established with the aircraft.	
14.2.3.2	When a request for CPDLC is rejected by an aircraft, the reason for the rejection shall be provided using CPDLC downlink message element NOT CURRENT DATA AUTHORITY or message element NOT AUTHORIZED	

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	NEXT DATA AUTHORITY, as appropriate. Local procedures shall dictate whether the reason for rejection is presented to the controller. No other reasons for airborne rejection of ATC unit-initiation of CPDLC shall be permitted.	
14.3.1	The controller or pilot shall construct CPDLC messages using standard message elements, free text message elements or a combination of both.	Modifications (modified text) introduced with ICAO AN-WP/9014.
14.3.1	*Note.— See Appendix 5 for the CPDLC message set including message intent/use and the respective message elements.*	
14.3.1.1	The use of long messages or messages with multiple clearance elements, multiple clearance request elements or messages with a combination of clearances and information should be avoided where possible.	
14.3.1.1	*Note.— Guidance material on the development of local operating procedures and CPDLC good operating technique can be found in the* Human Factors Guidelines for Air Traffic Management (ATM) Systems *(Doc 9758).*	
14.3.1.2	When CPDLC is being used, and the intent of the message is included in the CPDLC message set contained in Appendix 5, the associated standard message elements shall be used.	Modifications (modified text) introduced with ICAO AN-WP/9014.
14.3.1.3	Except as provided by 14.3.5.1, when a controller or pilot communicates via CPDLC, the response should be via CPDLC. When a controller or pilot communicates via voice, the response should be via voice.	
14.3.1.4	Whenever a correction to a message sent via CPDLC is deemed necessary or the contents of a message need to be clarified, the controller or pilot shall use the most appropriate means available for issuing the correct details or for providing clarification.	
14.3.1.4	*Note.— The following procedures may be applied by the controller, in terms of correcting clearances, instructions or information, or by a pilot, in terms of*	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	correcting a reply to an uplink message or correcting previously advised requests or information.	
14.3.1.4.1	When voice communications are used to correct a CPDLC message for which no operational response has yet been received, the controller's or pilot's transmission shall be prefaced by the phrase: "DISREGARD CPDLC *(message type)* MESSAGE, BREAK" — followed by the correct clearance, instruction, information or request.	
14.3.1.4.1	*Note.— It is possible that, at the time the voice-communicated clarification is transmitted, the CPDLC message being referred to has not yet reached the recipient, or has reached the recipient but not acted upon, or has reached the* *recipient and acted upon.*	
14.3.1.4.2	When referring to and identifying the CPDLC message to be disregarded, caution should be exercised in its phrasing so as to avoid any ambiguity with the issuance of the accompanying corrected clearance, instruction, information or request.	
14.3.1.4.2	*Note.— For example, if SAS 445, maintaining FL 290, had been instructed via CPDLC to climb to FL 350, and the controller needs to correct the clearance utilizing voice communications, the following phrase might be used:* SAS445 DISREGARD CPDLC CLIMB CLEARANCE MESSAGE, BREAK, CLIMB TO FL310.	
14.3.1.4.3	If a CPDLC message that requires an operational response is subsequently negotiated via voice, an appropriate CPDLC message closure response shall be sent, to ensure proper synchronization of the CPDLC dialogue. This could be achieved either by explicitly instructing the recipient of the message via voice to close the dialogue or by allowing the system to automatically close the dialogue.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
14.3.2	Message attributes dictate certain message handling requirements for the CPDLC user receiving a message. Each CPDLC message has two attributes: Alert and Response.	Modifications (modified text) introduced with ICAO AN-WP/9014.
14.3.2.1	The alert attribute delineates the type of alerting required upon message receipt. Alert types are presented in Table 14-1.	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
14.3.2.2.1	The response attribute delineates valid responses for a given message element. Response types are presented in Table 14-2 for uplink messages and Table 14-3 for downlink messages.	Modifications (modified numbering) introduced with ICAO AN-WP/9014.
14.3.2.2.2	When a multi-element message requires a response, the response shall apply to all message elements.	Modifications (modified text and numbering) introduced with ICAO AN-WP/9014.
14.3.2.3.2	*Note.— For example, given a multi-element message containing CLIMB TO FL 310 MAINTAIN MACH .84, a WILCO response applies to, and indicates compliance with, both elements of the message.*	
14.3.2.3.3	When a single message element clearance or any part of a multi-element clearance message cannot be complied with, the pilot shall send an UNABLE response for the whole message.	
14.3.2.3.4	The controller shall respond with an UNABLE message that applies to all elements of the request when no element(s) of a single or multi-element clearance request can be approved. The current clearance(s) shall not be restated.	

<table>
<tr><th>PANS identifier</th><th>ICAO PANS ATM text</th><th>Proposed transposition into EU ATS requirements (IR/AMC/GM, none)</th></tr>
<tr><td>Table 14-1</td><td>Table 14-2. Alert attribute (uplink and downlink)
<table><tr><th>Type</th><th>Description</th><th>Precedence</th></tr><tr><td>H</td><td>High</td><td>1</td></tr><tr><td>M</td><td>Medium</td><td>2</td></tr><tr><td>L</td><td>Low</td><td>3</td></tr><tr><td>N</td><td>No alerting required</td><td>4</td></tr></table></td><td>Modifications (amended numbering of the table) introduced with ICAO AN-WP/9014.</td></tr>
<tr><td>14.3.2.3.5</td><td>When a multi-element clearance request can only be partially accommodated, the controller shall respond with an UNABLE message applying to all the message elements of the request and, if appropriate, include a reason and/or information on when a clearance may be expected.</td><td></td></tr>
<tr><td>14.3.2.3.5</td><td>Note.— A separate CPDLC message (or messages) may subsequently be transmitted to respond to those elements that can be accommodated.</td><td></td></tr>
<tr><td>14.3.2.3.6</td><td>When all elements of a single or multi-element clearance request can be accommodated, the controller shall respond with clearances corresponding to each element of the request. This response should be a single uplink message.</td><td></td></tr>
<tr><td>14.3.2.3.6</td><td>Note.— For example, while messages containing multi-element clearance requests are to be avoided, a multi-element

downlink message containing the indicated message elements:

REQUEST CLEARANCE YQM YYG YYT YQX TRACK X EINN EDDF
REQUEST CLIMB TO FL350
REQUEST MACH 0.84</td><td></td></tr>
</table>

<table>
<tr><th>PANS identifier</th><th>ICAO PANS ATM text</th><th>Proposed transposition into EU ATS requirements (IR/AMC/GM, none)</th></tr>
<tr><td></td><td>could be responded to with

CLEARED YQM YYG YYT YQX TRACK X EINN EDDF
CLIMB TO FL350
REPORT MAINTAINING
CROSS YYG AT OR AFTER 1150
NO SPEED RESTRICTION.</td><td></td></tr>
<tr><td>Table 14-2</td><td>Table 14-3. Response attribute (uplink)
<table><tr><th>Type</th><th>Response required</th><th>Valid responses</th><th>Precedence</th></tr><tr><td>W/U</td><td>Yes</td><td>WILCO, UNABLE, STANDBY,
NOT CURRENT DATA AUTHORITY,
NOT AUTHORIZED NEXT DATA AUTHORITY,
LOGICAL ACKNOWLEDGEMENT (only if required),
ERROR</td><td>1</td></tr><tr><td>A/N</td><td>Yes</td><td>AFFIRM, NEGATIVE, STANDBY,
NOT CURRENT DATA AUTHORITY,
NOT AUTHORIZED NEXT DATA AUTHORITY,
LOGICAL ACKNOWLEDGEMENT (only if required),
ERROR</td><td>2</td></tr><tr><td>R</td><td>Yes</td><td>ROGER, UNABLE, STANDBY,
NOT CURRENT DATA AUTHORITY,
NOT AUTHORIZED NEXT DATA AUTHORITY,
LOGICAL ACKNOWLEDGEMENT (only if required),
ERROR</td><td>3</td></tr><tr><td>Y</td><td>Yes</td><td>Any CPDLC downlink message,
LOGICAL ACKNOWLEDGEMENT (only if required)</td><td>4</td></tr><tr><td>N</td><td>No, unless logical acknowledgement required</td><td>LOGICAL ACKNOWLEDGEMENT (only if required),
NOT CURRENT DATA AUTHORITY,
NOT AUTHORIZED NEXT DATA AUTHORITY,
ERROR</td><td>5</td></tr></table></td><td>Modifications (amended numbering of the table) introduced with ICAO AN-WP/9014.</td></tr>
</table>

<table>
<tr><th>PANS identifier</th><th>ICAO PANS ATM text</th><th>Proposed transposition into EU ATS requirements (IR/AMC/GM, none)</th></tr>
<tr><td>Table 14-3</td><td>
<table>
<tr><th>Type</th><th>Response required</th><th>Valid responses</th><th>Precedence</th></tr>
<tr><td>Y</td><td>Yes</td><td>Any CPDLC uplink message,
LOGICAL ACKNOWLEDGEMENT (only if required)</td><td>1</td></tr>
<tr><td>N</td><td>No, unless logical acknowledgement required</td><td>LOGICAL ACKNOWLEDGEMENT (only if required),
~~SERVICE UNAVAILABLE~~ MESSAGE NOT SUPPORTED BY THIS ATC UNIT,
~~FLIGHT PLAN NOT HELD~~,
ERROR</td><td>2</td></tr>
</table>
</td><td>Modifications (amended table) introduced with ICAO AN-WP/9014. See PANS ATM Amendment 7 for the up-to-date table.</td></tr>
<tr><td>14.3.2.3.7</td><td>When a CPDLC message contains more than one message element and the response attribute for the message is Y, when utilized, the single response message shall contain the corresponding number of replies and in the same order.</td><td></td></tr>
<tr><td>14.3.2.3.7</td><td>Note.— For example, a multi-element uplink message containing

CONFIRM SQUAWK
WHEN CAN YOU ACCEPT FL410

could be responded to with

SQUAWKING 5525
WE CAN ACCEPT FL410 AT 1636Z.</td><td></td></tr>
<tr><td>14.3.3</td><td>Transfer of CPDLC</td><td></td></tr>
</table>

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
14.3.3.1	When CPDLC is transferred, the transfer of voice communications and CPDLC shall commence concurrently.	
14.3.3.2	When an aircraft is transferred from an ATC unit where CPDLC is available to an ATC unit where CPDLC is not available, CPDLC termination shall commence concurrent with the transfer of voice communications.	
14.3.3.3	When a transfer of CPDLC results in a change of data authority, and there are still messages for which the closure response has not been received (i.e. messages outstanding), the controller transferring the CPDLC shall be informed.	
14.3.3.3.1	If the controller needs to transfer the aircraft without replying to any downlink message(s) outstanding, the system shall have the capability to automatically send the appropriate closure response message(s). In such cases, the contents of any automatically sent closure response message(s) shall be promulgated in local instructions.	
14.3.3.3.2	When the controller decides to transfer the aircraft without receiving pilot responses to any uplink message(s) outstanding, the controller should revert to voice communications to clarify any ambiguity associated with the message(s) outstanding.	
14.3.4	FREE TEXT MESSAGES-ELEMENTS	
	Note — Provisions concerning the use of standardized free text message elements are contained in Annex 10, Volume II, Chapter 8.	Modifications (New note) introduced with ICAO AN-WP/9014.
14.3.4.1	The use of free text message elements by controllers or pilots should be avoided.	Modifications (amended text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
14.3.4	*Note — While it is recognized that non-routine and emergency situations may necessitate use of free text, particularly when voice communications have failed, the avoidance of utilizing free text messages is intended to reduce the possibility of misinterpretation and ambiguity.*	Modifications (renumbering) introduced with ICAO AN-WP/9014.
14.3.4.2	When determined acceptable by the appropriate ATS authority to use free text message elements, free text message elements should be stored for selection within the aircraft system or ground system to facilitate their use.	Modifications (New text) introduced with ICAO AN-WP/9014.
14.3.5.1	When a CPDLC emergency message is received, the controller shall acknowledge receipt of the message by the most efficient means available.	
14.3.5.2	When responding via CPDLC to all other emergency or urgency messages, uplink message ROGER shall be used.	Modifications (renumbering) introduced with ICAO AN-WP/9014.
14.3.5.3	When a CPDLC message requires a logical acknowledgement and/or an operational response, and such a response is not received, the pilot or controller, as appropriate shall be alerted.	Modifications (renumbering) introduced with ICAO AN-WP/9014.
14.3.6	*Note.— Action to be taken in the event of the failure of a single CPDLC message is covered in 14.3.8.*	
14.3.6.1	The controller and pilot shall be alerted to the failure of CPDLC as soon as the failure has been detected.	
14.3.6.2	When a controller or pilot is alerted that CPDLC has failed, and the controller or pilot needs to communicate prior to CPDLC being restored, the controller or pilot should revert to voice, if possible, and preface the information with the phrase: CPDLC FAILURE.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
14.3.6.3	Controllers having a requirement to transmit information concerning a complete CPDLC ground system failure to all stations likely to intercept should preface such transmission by the general call ALL STATIONS CPDLC FAILURE, followed by the identification of the calling station.	
14.3.6.3	*Note.— No reply is expected to such general calls unless individual stations are subsequently called to acknowledge receipt.*	
14.3.6.4	When CPDLC fails and communications revert to voice, all CPDLC messages outstanding should be considered not delivered and the entire dialogue involving the messages outstanding should be recommenced by voice.	
14.3.6.5	When CPDLC fails but is restored prior to a need to revert to voice communications, all messages outstanding should be considered not delivered and the entire dialogue involving the messages outstanding should be recommenced via CPDLC.	
14.3.7.1	When a system shutdown of the communications network or the CPDLC ground system is planned, a NOTAM shall be published to inform all affected parties of the shutdown period and, if necessary, the details of the voice communication frequencies to be used.	
14.3.7.2	Aircraft currently in communication with the ATC unit shall be informed by voice or CPDLC of any imminent loss of CPDLC service.	
14.3.7.3	The controller and pilot shall be provided with the capability to abort CPDLC.	
14.3.8	When a controller or pilot is alerted that a single CPDLC message has failed, the controller or pilot shall take one of the following actions as appropriate: a) via voice, confirm the actions that will be undertaken with respect to the related dialogue, prefacing the information with the phrase:	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	CPDLC MESSAGE FAILURE; b) via CPDLC, reissue the CPDLC message that failed.	
14.3.9.1	When a controller requires all stations or a specific flight to avoid sending CPDLC requests for a limited period of time, the following phrase shall be used: (*(call sign) or* ALL STATIONS) STOP SENDING CPDLC REQUESTS [UNTIL ADVISED] *[(reason)]*	
14.3.9.1	*Note.— Under these circumstances, CPDLC remains available for the pilot to respond, if necessary, to messages, to report information and, to declare and cancel an emergency.*	
14.3.9.2	The resumption of the normal use of CPDLC shall be advised using the following phrase: (*(call sign) or* ALL STATIONS) RESUME NORMAL CPDLC OPERATIONS	
14.3.10	Where the testing of CPDLC with an aircraft could affect the air traffic services being provided to the aircraft, coordination shall be effected prior to such testing.	
15	PROCEDURES RELATED TO EMERGENCIES, COMMUNICATION FAILURE AND CONTINGENCIES	SERA Section 11 'Interference, Emergency, Contingencies and Interception' and the associated AMC/GM proposed with NPA 2015-14 include provisions addressing such situations. Provisions in Sections 15.1 to 15.5 included, which have not yet been transposed, will be considered by SERA, in order to ensure consistency.
15.1	EMERGENCY PROCEDURES	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.1.1	GENERAL	
15.1.1.1	The various circumstances surrounding each emergency situation preclude the establishment of exact detailed procedures to be followed. The procedures outlined herein are intended as a general guide to air traffic services personnel. Air traffic control units shall maintain full and complete coordination, and personnel shall use their best judgement in handling emergency situations.	Not transposed. To be considered by SERA.
15.1.1.1	*Note 1.— Additional procedures to be applied in relation to emergencies and contingencies while using an ATS surveillance system are contained in Chapter 8, 8.8.1.*	Not transposed. To be considered by SERA.
15.1.1.1	*Note 2.— If the pilot of an aircraft encountering a state of emergency has previously been directed by ATC to select a specific transponder code and/or a specific ADS-B emergency mode, that code and/or mode will normally be maintained unless, in special circumstances, the pilot has decided or has been advised otherwise. Where ATC has not requested a code or emergency mode to be set, the pilot will set the transponder to Mode A Code 7700 and/or the appropriate ADS-B emergency mode.*	Not transposed. To be considered by SERA.
15.1.1.1	*Note 3.— Some aircraft equipped with first generation ADS-B avionics have the capability to transmit a general emergency alert only, regardless of the code selected by the pilot.*	Not transposed. To be considered by SERA.
15.1.1.1	*Note 4.— Some aircraft equipped with first generation ADS-B avionics do not have the capability of squawking IDENT while the emergency and/or urgency mode is selected.*	Not transposed. To be considered by SERA.
15.1.1.2	When an emergency is declared by an aircraft, the ATS unit should take appropriate and relevant action as follows: a) unless clearly stated by the flight crew or otherwise known, take all necessary steps to ascertain aircraft identification and type, the type of emergency, the	Not transposed. Transposed in SERA as GM1 SERA.14095(c)(1)(ii)(F), with a modified text.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	intentions of the flight crew as well as the position and level of the aircraft; b) decide upon the most appropriate type of assistance which can be rendered; c) enlist the aid of any other ATS unit or other services which may be able to provide assistance to the aircraft; d) provide the flight crew with any information requested as well as any additional relevant information, such as details on suitable aerodromes, minimum safe altitudes, weather information; e) obtain from the operator or the flight crew such of the following information as may be relevant: number of persons on board, amount of fuel remaining, possible presence of hazardous materials and the nature thereof; and f) notify the appropriate ATS units and authorities as specified in local instructions.	
15.1.1.3	Changes of radio frequency and SSR code should be avoided if possible and should normally be made only when or if an improved service can be provided to the aircraft concerned. Manoeuvring instructions to an aircraft experiencing engine failure should be limited to a minimum. When appropriate, other aircraft operating in the vicinity of the aircraft in emergency should be advised of the circumstances.	Not transposed. To be considered by SERA.
15.1.1.3	*Note.— Requests to the flight crew for the information contained in 15.1.1.2 e) will be made only if the information is not available from the operator or from other sources and will be limited to essential information.*	Not transposed. To be considered by SERA.
15.1.2	PRIORITY An aircraft known or believed to be in a state of emergency, including being subjected to unlawful interference, shall be given priority over other aircraft.	Not transposed. AMC5 ATS.TR.210(a)(3) and AMC19 ATS.TR.210(a)(3) address priority of aircraft in flight. Transposed in SERA.11001(a).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.1.3	UNLAWFUL INTERFERENCE AND AIRCRAFT BOMB THREAT	
15.1.3.1	Air traffic services personnel shall be prepared to recognize any indication of the occurrence of unlawful interference with an aircraft.	Not transposed. To be considered by SERA.
15.1.3.2	Whenever unlawful interference with an aircraft is suspected, and where automatic distinct display of SSR Mode A Code 7500 and Code 7700 is not provided, the controller shall attempt to verify any suspicion by setting the SSR decoder to Mode A Code 7500 and thereafter to Code 7700.	Not transposed. To be considered by SERA.
15.1.3.2	*Note.— An aircraft equipped with an SSR transponder is expected to operate the transponder on Mode A Code 7500 to indicate specifically that it is the subject of unlawful interference. The aircraft may operate the transponder on Mode A Code 7700, to indicate that it is threatened by grave and imminent danger and requires immediate assistance. An aircraft equipped with other surveillance system transmitters, including ADS-B and ADS-C, might send the emergency and/or urgency signal by all of the available means.*	Not transposed. To be considered by SERA.
15.1.3.3	Whenever unlawful interference with an aircraft is known or suspected or a bomb threat warning has been received, ATS units shall promptly attend to requests by, or to anticipated needs of, the aircraft, including requests for relevant information relating to air navigation facilities, procedures and services along the route of flight and at any aerodrome of intended landing, and shall take such action as is necessary to expedite the conduct of all phases of the flight.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.3.1	ATS units shall also: a) transmit, and continue to transmit, information pertinent to the safe conduct of the flight, without expecting a reply from the aircraft; b) monitor and plot the progress of the flight with the means available, and coordinate transfer of control with adjacent ATS units without requiring	Not transposed. Transposed in SERA as AMC1 SERA.11005.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	transmissions or other responses from the aircraft, unless communication with the aircraft remains normal; c) inform, and continue to keep informed, appropriate ATS units, including those in adjacent FIRs, which may be concerned with the progress of the flight;	
15.1.3.3.1	*Note.— In applying this provision, account must be taken of all the factors which may affect the progress of the flight, including fuel endurance and the possibility of sudden changes in route and destination. The objective is to provide, as far in advance as is practicable in the circumstances, each ATS unit with appropriate information as to the expected or possible penetration of the aircraft into its area of responsibility.*	Not transposed. To be considered by SERA.
15.1.3.3.1	d) notify: 1) the operator or its designated representative; 2) the appropriate rescue coordination centre in accordance with appropriate alerting procedures; 3) the appropriate authority designated by the State;	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.3.1	*Note.— It is assumed that the designated security authority and/or the operator will in turn notify other parties concerned in accordance with pre-established procedures.*	Not transposed. To be considered by SERA.
15.1.3.3.1	e) relay appropriate messages, relating to the circumstances associated with the unlawful interference, between the aircraft and designated authorities.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.3.1	*Note.— These messages include, but are not limited to: initial messages declaring an incident; update messages on an existing incident; messages containing decisions made by appropriate decision makers; messages on transfer of responsibility; messages on acceptance of responsibility; messages indicating that an entity is no longer involved in an incident; and messages closing an incident.*	Not transposed. To be considered by SERA.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.1.3.4	The following additional procedures shall apply if a threat is received indicating that a bomb or other explosive device has been placed on board a known aircraft. The ATS unit receiving the threat information shall: a) if in direct communication with the aircraft, advise the flight crew without delay of the threat and the circumstances surrounding the threat; or b) if not in direct communication with the aircraft, advise the flight crew by the most expeditious means through other ATS units or other channels.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.5	The ATS unit in communication with the aircraft shall ascertain the intentions of the flight crew and report those intentions to other ATS units which may be concerned with the flight.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.6	The aircraft shall be handled in the most expeditious manner while ensuring, to the extent possible, the safety of other aircraft and that personnel and ground installations are not put at risk.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.7	Aircraft in flight shall be given re-clearance to a requested new destination without delay. Any request by the flight crew to climb or descend for the purpose of equalizing or reducing the differential between the outside air pressure and the cabin air pressure shall be approved as soon as possible.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.8	An aircraft on the ground should be advised to remain as far away from other aircraft and installations as possible and, if appropriate, to vacate the runway. The aircraft should be instructed to taxi to a designated or isolated parking area in accordance with local instructions. Should the flight crew disembark passengers and crew immediately, other aircraft, vehicles and personnel should be kept at a safe distance from the threatened aircraft.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.9	ATS units shall not provide any advice or suggestions concerning action to be taken by the flight crew in relation to an explosive device.	Not transposed. Transposed in SERA as AMC1 SERA.11005.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.1.3.10	An aircraft known or believed to be the subject of unlawful interference or which for other reasons needs isolation from normal aerodrome activities shall be cleared to the designated isolated parking position. Where such an isolated parking position has not been designated, or if the designated position is not available, the aircraft shall be cleared to a position within the area or areas selected by prior agreement with the aerodrome authority. The taxi clearance shall specify the taxi route to be followed to the parking position. This route shall be selected with a view to minimizing any security risks to the public, other aircraft and installations at the aerodrome.	Not transposed. Transposed in SERA as AMC1 SERA.11005.
15.1.3.10	*Note.— See Annex 14, Volume I, Chapter 3.*	
15.1.4	EMERGENCY DESCENT	
15.1.4.1	ACTION BY THE ATS UNIT Upon recognition that an aircraft is making an emergency descent, all appropriate action shall be taken immediately to safeguard all aircraft concerned. Appropriate actions may include the following, in the order appropriate for the circumstance: a) broadcasting an emergency message; b) issuing traffic information and/or instructions to aircraft affected by the descent; c) advising the minimum flight altitude and altimeter setting for the area of operation; and d) informing any other ATS units which may be affected by the emergency descent.	Not transposed. Transposed in SERA as AMC1 SERA.11005, which considers the related content of Doc 7030 EUR Sections 9.1.1 and 9.1.2, but not the content of 9.1.3. Modifications (amended and added text) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.1.4.2	ACTION BY THE PILOT OF THE AIRCRAFT CONCERNED The pilot shall take the following steps as soon as practicable in the order appropriate for the circumstance: a) navigate as deemed appropriate by the pilot; b) advise the appropriate ATS unit of the emergency descent and if able intentions; c) set transponder to Code 7700 and, if applicable, select the appropriate emergency mode on ADS-B and/or ADS-C; d) turn on aircraft exterior lights (commensurate with appropriate operating limitations); e) watch for conflicting traffic both visually and by reference to ACAS (if equipped); and f) when emergency descent is complete, coordinate further intentions with the appropriate ATS unit. *Note.— Procedures for the use of ACAS are contained in PANS-OPS, Volume I, Part III, Section 3, Chapter 3.*	Not transposed. Transposed in SERA as AMC1 SERA.11005. Modifications (amended text) introduced with ICAO AN-WP/9014.
15.1.4.3	ACTION BY THE PILOT OF AIRCRAFT RECEIVING EMERGENCY DESCENT BROADCAST Unless specifically instructed by the ATS unit to clear the area or threatened by immediate danger, the pilot shall take the following actions: a) continue according to current clearance and maintain listening watch on the frequency in use for any further instructions from the ATS unit; and b) watch for conflicting traffic both visually and by reference to ACAS	Not transposed. Transposed in SERA as AMC1 SERA.11005. Modifications (amended text and added note) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	(if equipped).	
15.2	SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE	Section 15.2 it is not transposed as addresses operations in oceanic airspace, which is outside the scope of Part-ATS.
15.2.1.1	Although all possible contingencies cannot be covered, the procedures in 15.2.2 and 15.2.3 provide for the more frequent cases such as: a) inability to comply with assigned clearance due to meteorological conditions, aircraft performance or pressurization failure; b) en-route diversion across the prevailing traffic flow; and c) loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations.	
15.2.1.2	With regard to 15.2.1.1 a) and b), the procedures are applicable primarily when descent and/or turnback or diversion is required. The pilot shall take action as necessary to ensure the safety of the aircraft, and the pilot's judgement shall determine the sequence of actions to be taken, having regard to the prevailing circumstances. Air traffic control shall render all possible assistance.	
15.2.2.1	If an aircraft is unable to continue the flight in accordance with its ATC clearance, and/or an aircraft is unable to maintain the navigation performance accuracy specified for the airspace, a revised clearance shall be obtained, whenever possible, prior to initiating any action.	
15.2.2.2	The radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times shall be used as appropriate. Subsequent ATC action with respect to that aircraft shall be based on the intentions of the pilot and the overall air traffic situation.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.2.2.3	If prior clearance cannot be obtained, until a revised clearance is received the following contingency procedures should be employed and the pilot shall advise air traffic control as soon as practicable, reminding them of the type of aircraft involved and the nature of the problem. In general terms, the aircraft should be flown at a flight level and on an offset track where other aircraft are least likely to be encountered. Specifically, the pilot shall: a) leave the assigned route or track by initially turning at least 45 degrees to the right or to the left, in order to acquire a same or opposite direction track offset 15 NM (28 km) from the assigned track centreline. When possible, the direction of the turn should be determined by the position of the aircraft relative to any organized route or track system. Other factors which may affect the direction of the turn are: 1) the direction to an alternate airport; 2) terrain clearance; 3) any strategic lateral offset being flown; and 4) the flight levels allocated on adjacent routes or tracks; b) having initiated the turn: 1) if unable to maintain the assigned flight level, initially minimize the rate of descent to the extent that is operationally feasible (pilots should take into account the possibility that aircraft below on the same track may be flying a 1 or 2 NM strategic lateral offset procedure (SLOP)) and select a final altitude which differs from those normally used by 150 m (500 ft) if at or below FL 410, or by 300 m (1 000 ft) if above FL 410; or 2) if able to maintain the assigned flight level, once the aircraft has deviated 19 km (10 NM) from the assigned track centreline, climb or descend to select a flight level which differs from those normally used by 150 m (500 ft), if at or below FL 410, or by 300 m (1 000 ft) if above FL 410; c) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	frequency 123.45 MHz) and where appropriate on the frequency in use: aircraft identification, flight level, position (including the ATS route designator or the track code, as appropriate) and intentions; d) maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped); e) turn on all aircraft exterior lights (commensurate with appropriate operating limitations); and f) keep the SSR transponder on at all times.	
15.2.2.3.1	When leaving the assigned track: a) if the intention is to acquire a same direction offset track, the pilot should consider limiting the turn to a 45 degree heading change, in order not to overshoot the offset contingency track; or b) if the intention is to acquire and maintain an opposite direction offset track, then: 1) operational limitations on bank angles at cruising altitudes will normally result in overshooting the track to be acquired. In such cases a continuous turn should be extended beyond 180 degrees heading change, in order to re-intercept the offset contingency track as soon as operationally feasible; and 2) furthermore, if executing such a turnback in a 56 km (30 NM) lateral separation route structure, extreme caution pertaining to opposite direction traffic on adjacent routes must be exercised and any climb or descent, as specified in 15.2.2.3 b) 2), should be completed preferably before approaching within 19 km (10 NM) of any adjacent ATS route.	
15.2.2.4	If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.2.3.1	*Note.— The following procedures are intended for deviations around adverse meteorological conditions.*	
15.2.3.1.1	When the pilot initiates communications with ATC, a rapid response may be obtained by stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response. When necessary, the pilot should initiate the communications using the urgency call "PAN PAN" (preferably spoken three times).	Transposed as SERA.14090(d).
15.2.3.1.2	The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.	
15.2.3.2.1	The pilot should notify ATC and request clearance to deviate from track, advising, when possible, the extent of the deviation expected.	
15.2.3.2.2	ATC should take one of the following actions: a) when appropriate separation can be applied, issue clearance to deviate from track; or b) if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall: 1) advise the pilot of inability to issue clearance for the requested deviation; 2) advise the pilot of conflicting traffic; and 3) request the pilot's intentions.	
15.2.3.2.3	The pilot should take the following actions: a) comply with the ATC clearance issued; or b) advise ATC of intentions and execute the procedures detailed in 15.2.3.3.	

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15.2.3.3	*Note.— The provisions of this section apply to situations where a pilot needs to exercise the authority of a pilot-in-command under the provisions of Annex 2, 2.3.1.*	
15.2.3.3	If the aircraft is required to deviate from track to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions: a) if possible, deviate away from an organized track or route system; b) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency 123.45 MHz); c) watch for conflicting traffic both visually and by reference to ACAS (if equipped);	
15.2.3.3	*Note.— If, as a result of actions taken under the provisions of 15.2.3.3.1 b) and c), the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.*	
15.2.3.3	d) turn on all aircraft exterior lights (commensurate with appropriate operating limitations); e) for deviations of less than 19 km (10 NM) remain at a level assigned by ATC; f) for deviations greater than 19 km (10 NM), when the aircraft is approximately 19 km (10 NM) from track, initiate a level change in accordance with Table 15-1; g) when returning to track, be at its assigned flight level when the aircraft is within approximately 19 km (10 NM) of the centre line; and	

<table>
<tr><th>PANS identifier</th><th>ICAO PANS ATM text</th><th>Proposed transposition into EU ATS requirements (IR/AMC/GM, none)</th></tr>
<tr><td></td><td>h) if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.</td><td></td></tr>
<tr><td>Table 15-1</td><td><table>
<tr><th>Route centre line track</th><th>Deviations
> 19 km (10 NM)</th><th>Level change</th></tr>
<tr><td>EAST
000° – 179° magnetic</td><td>LEFT
RIGHT</td><td>DESCEND 90 m (300 ft)
CLIMB 90 m (300 ft)</td></tr>
<tr><td>WEST
180° – 359° magnetic</td><td>LEFT
RIGHT</td><td>CLIMB 90 m (300 ft)
DESCEND 90 m (300 ft)</td></tr>
</table></td><td></td></tr>
<tr><td>15.3</td><td>AIR-GROUND COMMUNICATIONS FAILURE</td><td>Section 15.3 is not transposed (See Chapter 15).

SERA.8035(b) requires: ‘The Member States shall comply with the appropriate provisions on communication failures as have been adopted under the Chicago Convention. The Commission shall propose common European procedures by 31 December 2015 at latest, for implementation of the said ICAO provisions in Union law’. The provisions referenced are those in Annex 2, Annex 10 Volume 2 and PANS ATM Chapter 8 and 15.3. Their current application in the EU context is not uniform.

As a result of extensive discussions within the SERA regulatory process, at this stage it is envisaged that the date in the provision will be extended to 31.12.2017, awaiting for further amendments of the ICAO provisions.

To be further considered by SERA.</td></tr>
<tr><td>15.3</td><td>Note 1.— Procedures to be applied in relation to an aircraft experiencing air-ground communication failure when providing ATS surveillance services are contained in Chapter 8, Section 8.8.3.</td><td></td></tr>
<tr><td>15.3</td><td>Note 2.— An aircraft equipped with an SSR transponder is expected to operate the transponder on Mode A Code 7600 to indicate that it has experienced air-ground communication failure. An aircraft equipped with other surveillance system transmitters, including ADS-B and ADS-C, might indicate the loss of air-ground communication by all of the available means.</td><td></td></tr>
</table>

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.3	*Note 3.— Some aircraft equipped with first generation ADS-B avionics have the capability to transmit a general emergency alert only, regardless of the code selected by the pilot.*	
15.3	*Note 4.— See also Chapter 6, 6.3.2.5, concerning departure clearances containing no geographical or time limit for cleared level below the flight planned level and procedures to be applied in relation to an aircraft experiencing air-ground communication failure under such circumstances.*	Modifications (amended note) introduced with ICAO AN-WP/9014.
15.3	*Note 5. — See also Chapter 5, 5.4.2.6.3.2, for additional requirements applying to communication failure during the application of the 50 NM longitudinal RNAV/RNP 10 separation minimum.*	
15.3.1	Action by air traffic control units when unable to maintain two-way communication with an aircraft operating in a control area or control zone shall be as outlined in the paragraphs which follow.	
15.3.2	As soon as it is known that two-way communication has failed, action shall be taken to ascertain whether the aircraft is able to receive transmissions from the air traffic control unit by requesting it to execute a specified manoeuvre which can be observed by an ATS surveillance system or to transmit, if possible, a specified signal in order to indicate acknowledgement.	
15.3.2	*Note.— Some aircraft equipped with first generation ADS-B avionics do not have the capability of squawking IDENT while the emergency and/or urgency mode is selected.*	
15.3.3	If the aircraft fails to indicate that it is able to receive and acknowledge transmissions, separation shall be maintained between the aircraft having the communication failure and other aircraft, based on the assumption that the aircraft will: a) if in visual meteorological conditions:	

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	1) continue to fly in visual meteorological conditions; 2) land at the nearest suitable aerodrome; and 3) report its arrival by the most expeditious means to the appropriate air traffic control unit; or	
15.3.3	b) if in instrument meteorological conditions or when conditions are such that it does not appear likely that the pilot will complete the flight in accordance with a): 1) unless otherwise prescribed on the basis of a regional air navigation agreement, in airspace where procedural separation is being applied, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft's failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan; or 2) in airspace where an ATS surveillance system is used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 7 minutes following: i) the time the last assigned level or minimum flight altitude is reached; or ii) the time the transponder is set to Code 7600 or the ADS-B transmitter is set to indicate the loss of air-ground communications; or iii) the aircraft's failure to report its position over a compulsory reporting point; whichever is later and thereafter adjust level and speed in accordance with the filed flight plan; 3) when being vectored or having been directed by ATC to proceed offset using RNAV without a specified limit, proceed in the most direct manner possible to rejoin the current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude; 4) proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with 5), hold over this aid or fix until	

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	commencement of descent; 5) commence descent from the navigation aid or fix specified in 4) at, or as close as possible to, the expected approach time last received and acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan; 6) complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and 7) land, if possible, within 30 minutes after the estimated time of arrival specified in 5) or the last acknowledged expected approach time, whichever is later.	
15.3.3	*Note 1.— Provisions related to minimum levels are contained in Annex 2, 5.1.2.*	
15.3.3	*Note 2.— As evidenced by the meteorological conditions prescribed therein, 15.3.3 a) relates to all controlled flights, whereas 15.3.3 b) relates only to IFR flights.*	
15.3.3	*Note 3.— See also 8.6.5.1 b) concerning the requirement for the flight crew to be informed of what a vector is to accomplish and the limit of the vector.*	
15.3.4	Action taken to ensure suitable separation shall cease to be based on the assumption stated in 15.3.3 when: a) it is determined that the aircraft is following a procedure differing from that in 15.3.3; or b) through the use of electronic or other aids, air traffic control units determine that action differing from that required by 15.3.3 may be taken without impairing safety; or c) positive information is received that the aircraft has landed.	

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15.3.5	As soon as it is known that two-way communication has failed, appropriate information describing the action taken by the air traffic control unit, or instructions justified by any emergency situation, shall be transmitted blind for the attention of the aircraft concerned, on the frequencies available on which the aircraft is believed to be listening, including the voice frequencies of available radio navigation or approach aids. Information shall also be given concerning: a) meteorological conditions favourable to a cloud-breaking procedure in areas where congested traffic may be avoided; and b) meteorological conditions at suitable aerodromes.	
15.3.6	Pertinent information shall be given to other aircraft in the vicinity of the presumed position of the aircraft experiencing the failure.	
15.3.7	As soon as it is known that an aircraft which is operating in its area of responsibility is experiencing an apparent radiocommunication failure, an air traffic services unit shall forward information concerning the radiocommunication failure to all air traffic services units concerned along the route of flight. The ACC in whose area the destination aerodrome is located shall take steps to obtain information on the alternate aerodrome(s) and other relevant information specified in the filed flight plan, if such information is not available.	
15.3.8	If circumstances indicate that a controlled flight experiencing a communication failure might proceed to (one of) the alternate aerodrome(s) specified in the filed flight plan, the air traffic control unit(s) serving the alternate aerodrome(s) and any other air traffic control units that might be affected by a possible diversion shall be informed of the circumstances of the failure and requested to attempt to establish communication with the aircraft at a time when the aircraft could possibly be within communication range. This shall apply particularly when, by agreement with the operator or a designated representative, a clearance has been transmitted blind to the aircraft concerned to proceed to an alternate aerodrome,	

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	or when meteorological conditions at the aerodrome of intended landing are such that a diversion to an alternate is considered likely.	
15.3.9	When an air traffic control unit receives information that an aircraft, after experiencing a communication failure has re-established communication or has landed, that unit shall inform the air traffic services unit in whose area the aircraft was operating at the time the failure occurred, and other air traffic services units concerned along the route of flight, giving necessary information for the continuation of control if the aircraft is continuing in flight.	
15.3.10	If the aircraft has not reported within thirty minutes after: a) the estimated time of arrival furnished by the pilot; b) the estimated time of arrival calculated by the ACC; or c) the last acknowledged expected approach time, whichever is latest, pertinent information concerning the aircraft shall be forwarded to aircraft operators, or their designated representatives, and pilots-in-command of any aircraft concerned and normal control resumed if they so desire. It is the responsibility of the aircraft operators, or their designated representatives, and pilots-in-command of aircraft to determine whether they will resume normal operations or take other action.	
15.4	ASSISTANCE TO VFR FLIGHTS	
15.4.1	*Note.— A strayed aircraft is an aircraft which has deviated significantly from its intended track or which reports that it is lost.*	
15.4.1	STRAYED VFR FLIGHTS AND VFR FLIGHTS ENCOUNTERING ADVERSE METEOROLOGICAL CONDITIONS	Section 15.4 is not transposed (See Chapter 15). SERA.11010 'In-flight contingencies', covering also VFR flights, includes provisions concerning strayed aircraft, but does not explicitly mention the case of strayed VFR flights, nor the existing or proposed SERA AMC and

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
		GM do. To be considered by SERA.
15.4.1.1	A VFR flight reporting that it is uncertain of its position or lost, or encountering adverse meteorological conditions, should be considered to be in a state of emergency and handled as such. The controller shall, under such circumstances, communicate in a clear, concise and calm manner and care shall be taken, at this stage, not to question any fault or negligence that the pilot may have committed in the preparation or conduct of the flight. Depending on the circumstances, the pilot should be requested to provide any of the following information considered pertinent so as to better provide assistance: a) aircraft flight conditions; b) position (if known) and level; c) airspeed and heading since last known position, if pertinent; d) pilot experience; e) navigation equipment carried and if any navigation aid signals are being received; f) SSR mode and code selected if relevant; g) ADS-B capability; h) departure and destination aerodromes; i) number of persons on board; j) endurance.	
15.4.1.2	If communications with the aircraft are weak or distorted, it should be suggested that the aircraft climb to a higher level, provided meteorological conditions and other circumstances permit.	

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15.4.1.3	Navigation assistance to help the pilot determine the aircraft position may be provided by use of an ATS surveillance system, direction-finder, navigation aids or sighting by another aircraft. Care must be taken when providing navigation assistance to ensure that the aircraft does not enter cloud.	
15.4.1.3	*Note.— The possibility of a VFR flight becoming strayed as a result of encountering adverse meteorological conditions must be recognized.*	
15.4.1.4	The pilot should be provided with reports and information on suitable aerodromes in the vicinity where visual meteorological conditions exist.	
15.4.1.5	If reporting difficulty in maintaining or unable to maintain VMC, the pilot should be informed of the minimum flight altitude of the area where the aircraft is, or is believed to be. If the aircraft is below that level, and the position of the aircraft has been established with a sufficient degree of probability, a track or heading, or a climb, may be suggested to bring the aircraft to a safe level.	
15.4.1.6	Assistance to a VFR flight should only be provided using an ATS surveillance system upon the request or concurrence of the pilot. The type of service to be provided should be agreed with the pilot.	
15.4.1.7	When providing such assistance in adverse meteorological conditions, the primary objective should be to bring the aircraft into VMC as soon as possible. Caution must be exercised to prevent the aircraft from entering cloud.	
15.4.1.8	Should circumstances be such that IMC cannot be avoided by the pilot, the following guidelines may be followed: a) other traffic on the ATC frequency not able to provide any assistance may be instructed to change to another frequency to ensure uninterrupted communications with the aircraft; alternatively the aircraft being assisted may be instructed to change to another frequency;	

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	b) ensure, if possible, that any turns by the aircraft are carried out clear of cloud; c) instructions involving abrupt manoeuvres should be avoided; and d) instructions or suggestions to reduce speed of the aircraft or to lower the landing gear, should, if possible, be carried out clear of cloud.	
15.5	OTHER IN-FLIGHT CONTINGENCIES	Section 15.5 is not transposed (See Chapter 15). Its content is to be considered by SERA for further elaboration of existing provisions related to contingencies.
15.5	*Note.— The texts of 15.5.1 and 15.5.2 are reproduced from Annex 11, Chapter 2, and have the status of Standards.*	
15.5.1	STRAYED OR UNIDENTIFIED AIRCRAFT	SERA.11010 addresses strayed or unidentified aircraft.
15.5.1	*Note 1.— The terms "strayed aircraft" and "unidentified aircraft" in this paragraph have the following meanings:* Strayed aircraft. *An aircraft which has deviated significantly from its intended track or which reports that it is lost.* Unidentified aircraft. *An aircraft which has been observed or reported to be operating in a given area but whose identity has not been established*.	
15.5.1	*Note 2.— An aircraft may be considered, at the same time, as a "strayed aircraft" by one unit and as an "unidentified aircraft" by another unit.*	
15.5.1	*Note 3.— A strayed or unidentified aircraft may be suspected as being the subject of unlawful interference. See Annex 11, 2.24.1.3.*	
15.5.1.1	As soon as an air traffic services unit becomes aware of a strayed aircraft, it shall take all necessary steps as outlined in 15.5.1.1.1 and 15.5.1.1.2 to assist the aircraft and to safeguard its flight.	

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15.5.1.1	*Note.— Navigational assistance by an air traffic services unit is particularly important if the unit becomes aware of an aircraft straying, or about to stray, into an area where there is a risk of interception or other hazard to its safety.*	
15.5.1.1.1	If the aircraft's position is not known, the air traffic services unit shall: a) attempt to establish two-way communication with the aircraft, unless such communication already exists; b) use all available means to determine its position; c) inform other ATS units into whose area the aircraft may have strayed or may stray, taking into account all the factors which may have affected the navigation of the aircraft in the circumstances; d) inform, in accordance with locally agreed procedures, appropriate military units and provide them with pertinent flight plan and other data concerning the strayed aircraft; e) request from the units referred to in c) and d) and from other aircraft in flight every assistance in establishing communication with the aircraft and determining its position.	
15.5.1.1.1	*Note.— The requirements in d) and e) apply also to ATS units informed in accordance with c).*	
15.5.1.1.2	When the aircraft's position is established, the air traffic services unit shall: a) advise the aircraft of its position and corrective action to be taken; and b) provide, as necessary, other ATS units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.	
15.5.1.2	As soon as an air traffic services unit becomes aware of an unidentified aircraft in its area, it shall endeavour to establish the identity of the aircraft whenever this is necessary for the provision of air traffic services or required by the	

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	appropriate military authorities in accordance with locally agreed procedures. To this end, the air traffic services unit shall take such of the following steps as are appropriate in the circumstances: a) attempt to establish two-way communication with the aircraft; b) inquire of other air traffic services units within the FIR about the flight and request their assistance in establishing two-way communication with the aircraft; c) inquire of air traffic services units serving the adjacent FIRs about the flight and request their assistance in establishing two-way communication with the aircraft; d) attempt to obtain information from other aircraft in the area.	
15.5.1.2.1	The air traffic services unit shall, as necessary, inform the appropriate military unit as soon as the identity of the aircraft has been established.	
15.5.1.2.1	*Note.— Requirements for coordination between military authorities and air traffic services are specified in Annex 11, 2.16.*	
15.5.1.3	Should the ATS unit consider that a strayed or unidentified aircraft may be the subject of unlawful interference, the appropriate authority designated by the State shall immediately be informed, in accordance with locally agreed procedures.	
15.5.2	INTERCEPTION OF CIVIL AIRCRAFT	SERA.11015 addresses interception of civil aircraft.
15.5.2.1	As soon as an air traffic services unit learns that an aircraft is being intercepted in its area of responsibility, it shall take such of the following steps as are appropriate in the circumstances: a) attempt to establish two-way communication with the intercepted aircraft via any means available, including the emergency frequency 121.5 MHz, unless	

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	such communication already exists; b) inform the pilot of the intercepted aircraft of the interception; c) establish contact with the intercept control unit maintaining two-way communication with the intercepting aircraft and provide it with available information concerning the aircraft; d) relay messages between the intercepting aircraft or the intercept control unit and the intercepted aircraft, as necessary; e) in close coordination with the intercept control unit take all necessary steps to ensure the safety of the intercepted aircraft; and f) inform ATS units serving adjacent FIRs if it appears that the aircraft has strayed from such adjacent FIRs.	
15.5.2.2	As soon as an air traffic services unit learns that an aircraft is being intercepted outside its area of responsibility, it shall take such of the following steps as are appropriate in the circumstances: a) inform the ATS unit serving the airspace in which the interception is taking place, providing this unit with available information that will assist in identifying the aircraft and requesting it to take action in accordance with 15.5.2.1; b) relay messages between the intercepted aircraft and the appropriate ATS unit, the intercept control unit or the intercepting aircraft.	
15.5.3	FUEL DUMPING	Fuel dumping is not included in Section 11 of SERA. Section 15.5.3 is to be considered by SERA.
15.5.3.1.1	An aircraft in an emergency or other urgent situations may need to dump fuel so as to reduce to maximum landing mass in order to effect a safe landing.	
15.5.3.1.2	When an aircraft operating within controlled airspace needs to dump fuel, the flight crew shall advise ATC. The ATC unit should then coordinate with the	

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	flight crew the following: a) the route to be flown, which, if possible, should be clear of cities and towns, preferably over water and away from areas where thunderstorms have been reported or are expected; b) the level to be used, which should be not less than 1 800 m (6 000 ft); and c) the duration of the fuel dumping.	
15.5.3.2	Other known traffic should be separated from the aircraft dumping fuel by: a) at least 19 km (10 NM) horizontally, but not behind the aircraft dumping fuel; b) vertical separation if behind the aircraft dumping fuel within 15 minutes flying time or a distance of 93 km (50 NM) by: 1) at least 300 m (1 000 ft) if above the aircraft dumping fuel; and 2) at least 900 m (3 000 ft) if below the aircraft dumping fuel.	
15.5.3.2	*Note.— The horizontal boundaries of the area within which other traffic requires appropriate vertical separation extend for 19 km (10 NM) either side of the track flown by the aircraft which is dumping fuel, from 19 km (10 NM) ahead, to 93 km (50 NM) or 15 minutes along track behind it (including turns).*	
15.5.3.3	If the aircraft will maintain radio silence during the fuel dumping operation, the frequency to be monitored by the flight crew and the time when radio silence will terminate should be agreed.	
15.5.3.4.1	A warning message shall be broadcast on appropriate frequencies for non-controlled traffic to remain clear of the area concerned. Adjacent ATC units and control sectors should be informed of the fuel dumping taking place and requested to broadcast on applicable frequencies an appropriate warning message for other traffic to remain clear of the area concerned.	

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15.5.3.4.2	Upon completion of the fuel dumping, adjacent ATC units and control sectors should be advised that normal operations can be resumed.	
15.5.4	FUEL EMERGENCY AND MINIMUM FUEL	SERA.11012 addresses Minimum Fuel and Fuel Emergency.
15.5.4	*Note 1.— General procedures to be applied when a pilot reports an emergency situation are contained in 15.1.1 and 15.1.2.*	
15.5.4	*Note 2.— Coordination procedures to be applied between transferring and accepting ATS units for flights in fuel emergency or minimum fuel situations are contained in Chapter 10, 10.2.5.*	
15.5.4	*Note 3.— The words MAYDAY FUEL describe the nature of the distress condition as required in Annex 10, Volume II, 5.3.2.1.1 b) 3.*	
15.5.4.1	When a pilot reports a state of minimum fuel, the controller shall inform the pilot as soon as practicable of any anticipated delays or that no delays are expected.	
15.5.4.1	*Note.— The declaration of MINIMUM FUEL informs ATC that all planned aerodrome options have been reduced to a specific aerodrome of intended landing, and any change to the existing clearance may result in landing with less than planned final reserve fuel. This is not an emergency situation but an indication that an emergency situation is possible should any additional delay occur.*	
15.5.5	DESCENTS BY SUPERSONIC AIRCRAFT DUE TO SOLAR COSMIC RADIATION	It is not included in Section 11 of SERA. Section 15.5.5 is to be considered by SERA.
15.5.5	Air traffic control units should be prepared for the possibility that supersonic aircraft operating at levels above 15 000 m (49 000 ft) may, on rare occasions, experience a rise in solar cosmic radiation which requires them to descend to	

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	lower levels, possibly down to or below the levels being used by subsonic aircraft. When such a situation is known or suspected, air traffic control units should take all possible action to safeguard all aircraft concerned, including any subsonic aircraft affected by the descent.	
15.5.5	*Note.— All supersonic aircraft in a particular portion of airspace will be affected at the same time, and the event may be accompanied by a deterioration or loss of air-ground communications. It is expected that the aircraft will alert air traffic control units before the radiation reaches a critical level and will request a descent clearance when the critical level is reached. However, situations may occur in which the aircraft will need to descend without waiting for a clearance. In such cases, the aircraft are expected to advise air traffic control units, as soon as possible, of the emergency action taken.*	
15.6	ATC CONTINGENCIES	
15.6	The various circumstances surrounding each contingency situation preclude the establishment of exact detailed procedures to be followed. The procedures outlined below are intended as a general guide to air traffic services personnel.	The first sentence is transposed as GM1 ATS.OR.135.
15.6.1	RADIOCOMMUNICATIONS CONTINGENCIES	
15.6.1.1	GENERAL ATC contingencies related to communications, i.e. circumstances preventing a controller from communicating with aircraft under control, may be caused by either a failure of ground radio equipment, a failure of airborne equipment, or by the control frequency being inadvertently blocked by an aircraft transmitter. The duration of such events may be for prolonged periods and appropriate action to ensure that the safety of aircraft is not affected should therefore be taken immediately.	The provision, identical to Section 8.8.6.1, is transposed as GM2 ATS.OR.135.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.6.1.2	GROUND RADIO FAILURE	
15.6.1.2.1	In the event of complete failure of the ground radio equipment used for ATC, the controller shall: a) where aircraft are required to keep a listening watch on the emergency frequency 121.5 MHz, attempt to establish radiocommunications on that frequency; b) without delay inform all adjacent control positions or ATC units, as applicable, of the failure; c) appraise such positions or units of the current traffic situation; d) if practicable, request their assistance, in respect of aircraft which may establish communications with those positions or units, in establishing separation between and maintaining control of such aircraft; and e) instruct adjacent control positions or ATC units to hold or re-route all controlled flights outside the area of responsibility of the position or ATC unit that has experienced the failure until such time that the provision of normal services can be resumed.	The provision, identical to Section 8.8.6.2, is transposed as GM2 ATS.OR.135.
15.6.1.2.2	In order to reduce the impact of complete ground radio equipment failure on the safety of air traffic, the appropriate ATS authority should establish contingency procedures to be followed by control positions and ATC units in the event of such failures. Where feasible and practicable, such contingency procedures should provide for the delegation of control to an adjacent control position or ATC unit in order to permit a minimum level of services to be provided as soon as possible, following the ground radio failure and until normal operations can be resumed.	It is transposed as GM2 ATS.OR.135.
15.6.1.3	BLOCKED FREQUENCY	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.6.1.3	In the event that the control frequency is inadvertently blocked by an aircraft transmitter, the following additional steps should be taken: a) attempt to identify the aircraft concerned; b) if the aircraft blocking the frequency is identified, attempts should be made to establish communication with that aircraft, e.g. on the emergency frequency 121.5 MHz, by SELCAL, through the aircraft operator's company frequency if applicable, on any VHF frequency designated for air-to-air use by flight crews or any other communication means or, if the aircraft is on the ground, by direct contact; c) if communication is established with the aircraft concerned, the flight crew shall be instructed to take immediate action to stop inadvertent transmissions on the affected control frequency.	It is transposed as GM2 ATS.OR.135.
15.6.1.4	UNAUTHORIZED USE OF ATC FREQUENCY	
15.6.1.4.1	Instances of false and deceptive transmissions on ATC frequencies which may impair the safety of aircraft can occasionally occur. In the event of such occurrences, the ATC unit concerned should: a) correct any false or deceptive instructions or clearances which have been transmitted; b) advise all aircraft on the affected frequency(ies) that false and deceptive instructions or clearances are being transmitted; c) instruct all aircraft on the affected frequency(ies) to verify instructions and clearances before taking action to comply; d) if practical, instruct aircraft to change to another frequency; and e) if possible, advise all aircraft affected when the false and deceptive instructions or clearances are no longer being transmitted.	It is transposed as GM2 ATS.OR.135.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.6.1.4.2	Flight crews shall challenge or verify with the ATC unit concerned any instruction or clearance issued to them which they suspect may be false or deceptive.	Not transposed.
15.6.1.4.3	When the transmission of false or deceptive instructions and clearances is detected, the appropriate authority shall take all necessary action to have the transmitter located and the transmission terminated.	Not transposed.
15.7	OTHER ATC CONTINGENCY PROCEDURES	
15.7.1	EMERGENCY SEPARATION	
15.7.1.1	If, during an emergency situation, it is not possible to ensure that the applicable horizontal separation can be maintained, emergency separation of half the applicable vertical separation minimum may be used, i.e. 150 m (500 ft) between aircraft in airspace where a vertical separation minimum of 300 m (1 000 ft) is applied, and 300 m (1 000 ft) between aircraft in airspace where a 600 m (2 000 ft) vertical separation minimum is applied.	It is transposed as AMC1 ATS.TR.210(c).
15.7.1.2	When emergency separation is applied the flight crews concerned shall be advised that emergency separation is being applied and informed of the actual minimum used. Additionally, all flight crews concerned shall be provided with essential traffic information.	It is transposed as AMC1 ATS.TR.210(c).
15.7.2	SHORT-TERM CONFLICT ALERT (STCA) PROCEDURES	
15.7.2	*Note 1.— The generation of short-term conflict alerts is a function based on surveillance data, integrated into an ATC system. The objective of the STCA function is to assist the controller in preventing collision between aircraft by generating, in a timely manner, an alert of a potential or actual infringement of*	It is transposed GM2 ATS.TR.160(d)(9).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	separation minima.	
15.7.2	*Note 2. — In the STCA function the current and predicted three-dimensional positions of aircraft with pressure-altitude reporting capability are monitored for proximity. If the distance between the three-dimensional positions of two aircraft is predicted to be reduced to less than the defined applicable separation minima within a specified time period, an acoustic and/or visual alert will be generated to the controller within whose jurisdiction area the aircraft is operating.*	Not transposed.
15.7.2.1	Local instructions concerning use of the STCA function shall specify, inter alia: a) the types of flight which are eligible for generation of alerts; b) the sectors or areas of airspace within which the STCA function is implemented; c) the method of displaying the STCA to the controller; d) in general terms, the parameters for generation of alerts as well as alert warning time; e) the volumes of airspace within which STCA can be selectively inhibited and the conditions under which this will be permitted; f) conditions under which specific alerts may be inhibited for individual flights; and g) procedures applicable in respect of volume of airspace or flights for which STCA or specific alerts have been inhibited.	It is transposed GM2 ATS.TR.160(d)(9).
15.7.2.2	In the event an STCA is generated in respect of controlled flights, the controller shall without delay assess the situation and, if necessary, take action to ensure that the applicable separation minimum will not be infringed or will be restored.	Not transposed. The principle is covered by ATS.TR.210(e).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.7.2.3	Following the generation of an STCA, controllers should be required to complete an air traffic incident report only in the event that a separation minimum was infringed.	Not transposed. The principle is covered as by Regulation (EU) No 376/2014, Article 4 'Mandatory reporting'.
15.7.2.4	The appropriate ATS authority should retain electronic records of all alerts generated. The data and circumstances pertaining to each alert should be analysed to determine whether an alert was justified or not. Non-justified alerts, e.g. when visual separation was applied, should be ignored. A statistical analysis should be made of justified alerts in order to identify possible shortcomings in airspace design and ATC procedures as well as to monitor overall safety levels.	Not transposed.
15.7.3	PROCEDURES IN REGARD TO AIRCRAFT EQUIPPED WITH AIRBORNE COLLISION AVOIDANCE SYSTEMS (ACAS)	Section 15.7.3 is not to be transposed. It is to be considered by SERA in relation to SERA.11014 addressing ACAS Resolution Advisory.
15.7.3.1	The procedures to be applied for the provision of air traffic services to aircraft equipped with ACAS shall be identical to those applicable to non-ACAS equipped aircraft. In particular, the prevention of collisions, the establishment of appropriate separation and the information which might be provided in relation to conflicting traffic and to possible avoiding action shall conform with the normal ATS procedures and shall exclude consideration of aircraft capabilities dependent on ACAS equipment.	
15.7.3.2	When a pilot reports an ACAS resolution advisory (RA), the controller shall not attempt to modify the aircraft flight path until the pilot reports "Clear of Conflict".	
15.7.3.3	Once an aircraft departs from its ATC clearance or instruction in compliance with an RA, or a pilot reports an RA, the controller ceases to be responsible for providing separation between that aircraft and any other aircraft affected as a direct consequence of the manoeuvre induced by the RA. The controller shall resume responsibility for providing separation for all the affected aircraft when: a) the controller acknowledges a report from the flight crew that the aircraft has	

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	resumed the current clearance; or b) the controller acknowledges a report from the flight crew that the aircraft is resuming the current clearance and issues an alternative clearance which is acknowledged by the flight crew.	
15.7.3.3	*Note.— Pilots are required to report RAs which require a deviation from the current ATC clearance or instruction (see PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3, 3.2 c) 4)). This report informs the controller that a deviation from clearance or instruction is taking place in response to an ACAS RA.*	
15.7.3.4	Guidance on training of air traffic controllers in the application of ACAS events is contained in the *Airborne Collision Avoidance System (ACAS) Manual* (Doc 9863).	
15.7.3.5	ACAS can have a significant effect on ATC. Therefore, the performance of ACAS in the ATC environment should be monitored.	
15.7.3.6	Following a significant ACAS event, pilots and controllers should complete an air traffic incident report.	
15.7.3.6	*Note 1.— The ACAS capability of an aircraft may not be known to air traffic controllers.*	
15.7.3.6	*Note 2.— Operating procedures for use of ACAS are contained in PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3.*	
15.7.3.6	*Note 3.— The phraseology to be used by controllers and pilots is contained in Chapter 12, 12.3.1.2.*	
15.7.4	MINIMUM SAFE ALTITUDE WARNING (MSAW) PROCEDURES	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
15.7.4	*Note 1.— The generation of minimum safe altitude warnings is a function of an ATC radar data-processing system. The objective of the MSAW function is to assist in the prevention of controlled flight into terrain accidents by generating, in a timely manner, a warning of the possible infringement of a minimum safe altitude.*	It is transposed GM3 ATS.TR.160(d)(9).
15.7.4	*Note 2.— In the MSAW function, the reported levels from aircraft with pressure-altitude reporting capability are monitored against defined minimum safe altitudes. When the level of an aircraft is detected or predicted to be less than* *the applicable minimum safe altitude, an acoustic and visual warning will be generated to the controller within whose jurisdiction area the aircraft is operating.*	Not transposed.
15.7.4.1	Local instructions concerning use of the MSAW function shall specify, *inter alia*: a) the types of flight which are eligible for generation of MSAW; b) the sectors or areas of airspace for which MSAW minimum safe altitudes have been defined and within which the MSAW function is implemented; c) the values of the defined MSAW minimum safe altitudes; d) the method of displaying the MSAW to the controller; e) the parameters for generation of MSAW as well as warning time; and f) conditions under which the MSAW function may be inhibited for individual aircraft tracks as well as procedures applicable in respect of flights for which MSAW has been inhibited.	It is transposed GM3 ATS.TR.160(d)(9).
15.7.4.2	In the event an MSAW is generated in respect of a controlled flight, the following action shall be taken without delay: a) if the aircraft is being vectored, the aircraft shall be instructed to climb immediately to the applicable safe level and, if necessary to avoid terrain, be	Not transposed.

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	assigned a new heading; b) in other cases, the flight crew shall immediately be advised that a minimum safe altitude warning has been generated and be instructed to check the level of the aircraft.	
15.7.4.3	Following an MSAW event, controllers should complete an air traffic incident report only in the event that a minimum safe altitude was unintentionally infringed with a potential for controlled flight into terrain by the aircraft concerned.	The principle is covered as by Regulation (EU) No 376/2014 Article 4 'Mandatory reporting'.
15.7.5	AUTONOMOUS RUNWAY INCURSION WARNING SYSTEM (ARIWS) Note 1.— The generation of ARIWS warnings is a function based on surveillance data. The objective of the ARIWS function is to assist flight crews and vehicle drivers in the prevention of runway incursions by generating, in a timely manner, a direct warning of a possible runway hazard making it unsafe to enter, to cross a runway or to take-off	Not transposed, as not addressing ATS, but aircrew and vehicle drivers. Modifications (New provision) introduced with ICAO AN-WP/9014.
	Note 2.— The function of ARIWS is to operate independently from ATC, and the warnings are generated for pilots and vehicle drivers.	Not transposed, as not addressing ATS, but aircrew and vehicle drivers. Modifications (New provision) introduced with ICAO AN-WP/9014.
15.7.5.1	In the event an ARIWS warning is generated that conflicts with the ATC clearance, the following action shall be taken by flight crew and vehicle drivers: a) The flight crew or vehicle driver shall give priority to the ARIWS warning over the ATC clearance. They shall not proceed onto the runway or commence the take-off roll. The flight crew or vehicle driver shall inform the controller of the ARIWS warning and await further clearance; and b) In the event the aircraft or vehicle has initiated actions to comply with a clearance that conflicts with the warning, the flight crew or the vehicle driver shall use the warning to exercise their best judgement and full authority in the choice of the best course of action to resolve any potential conflict. The	Not transposed, as not addressing ATS, but aircrew and vehicle drivers. Modifications (New provision) introduced with ICAO AN-WP/9014.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	controller should be informed, when practicable, of the ARIWS warning.	
15.7.5.2	ATS units shall have procedures in place for situations when controllers are informed of ARIWS warnings, including how to disable the ARIWS in case of malfunctions.	Not transposed, as not addressing ATS, but aircrew and vehicle drivers. Modifications (New provision) introduced with ICAO AN-WP/9014.
15.7.6	CHANGE OF RADIOTELEPHONY CALL SIGN FOR AIRCRAFT	Section 15.7.6 is not transposed. Its content is to be considered by SERA for further elaboration of SERA.14055(a) 'Radiotelephony procedures' addressing the possibility to temporarily change call sign, upon ATC instruction and for safety reasons. Modifications (amended numbering) introduced with ICAO AN-WP/9014.
15.7.6.1	An ATC unit may instruct an aircraft to change its type of RTF call sign, in the interests of safety, when similarity between two or more aircraft RTF call signs are such that confusion is likely to occur.	Modifications (amended numbering) introduced with ICAO AN-WP/9014.
15.7.6.1.1	Any such change to the type of call sign shall be temporary and shall be applicable only within the airspace(s) where the confusion is likely to occur.	Modifications (amended numbering) introduced with ICAO AN-WP/9014.
15.7.6.2	To avoid confusion, the ATC unit should, if appropriate, identify the aircraft which will be instructed to change its call sign by referring to its position and/or level.	Modifications (amended numbering) introduced with ICAO AN-WP/9014.
15.7.6.3	When an ATC unit changes the type of call sign of an aircraft, that unit shall ensure that the aircraft reverts to the call sign indicated by the flight plan when the aircraft is transferred to another ATC unit, except when the call sign change has been coordinated between the two ATC units concerned.	Modifications (amended numbering) introduced with ICAO AN-WP/9014.
15.7.6.4	The appropriate ATC unit shall advise the aircraft concerned when it is to revert to the call sign indicated by the flight plan.	Modifications (amended numbering) introduced with ICAO AN-WP/9014.

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15.8	PROCEDURES FOR ATS UNITS WHEN A VOLCANIC ASH CLOUD IS REPORTED OR FORECAST	
15.8.1	If a volcanic ash cloud is reported or forecast in the airspace for which the ATS unit is responsible, the following actions should be taken: a) relay pertinent information immediately to flight crews whose aircraft could be affected to ensure that they are aware of the ash cloud's current and forecast position and the flight levels affected; b) accommodate requests for re-routing or level changes to the extent practicable; c) suggest re-routing to avoid or exit areas of reported or forecast ash clouds when requested by the pilot or deemed necessary by the controller; and d) when practicable, request a special air-report when the route of flight takes the aircraft into or near the forecast ash cloud and provide such special air-reports to the appropriate agencies.	It is transposed as GM3 ATS.OR.135.
15.8.1	*Note 1.— Experience has shown that the recommended escape manoeuvre for an aircraft which has encountered an ash cloud is to reverse its course and begin a descent if terrain permits. The final responsibility for this decision, however, rests with the pilot-in-command as specified in the* Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds *(Doc 9691), 5.2.4.1.*	Not transposed.
15.8.1	*Note 2.— The final authority as to the disposition of the aircraft, whether to avoid or proceed through a reported or forecast ash cloud, rests with the pilot-in-command, as prescribed in Annex 2, 2.4.*	Not transposed.
15.8.2	When the flight crew advises the ATS unit that the aircraft has inadvertently entered a volcanic ash cloud, the ATS unit should: a) take such action applicable to an aircraft in an emergency situation; and	Not transposed. It is to be considered by SERA, in the same context as Section 15.1.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) initiate modifications of route or level assigned only when requested by the pilot or necessitated by airspace requirements or traffic conditions.	
15.8.2	*Note 1.— General procedures to be applied when a pilot reports an emergency situation are contained in Chapter 15, 15.1.1 and 15.1.2.*	Not transposed.
15.8.2	*Note 2.— Guidance material concerning the effect of volcanic ash and the impact of volcanic ash on aviation operational and support services is provided in Chapters 4 and 5 of Doc 9691.*	Not transposed.
16	MISCELLANEOUS PROCEDURES	
16.1	RESPONSIBILITY IN REGARD TO MILITARY TRAFFIC	
16.1.1	It is recognized that some military aeronautical operations necessitate non-compliance with certain air traffic procedures. In order to ensure the safety of flight operations the appropriate military authorities shall be asked, whenever practicable, to notify the proper air traffic control unit prior to undertaking such manoeuvres.	Not transposed.
16.1.2	A reduction of separation minima required by military necessity or other extraordinary circumstances shall only be accepted by an air traffic control unit when a specific request in some recorded form has been obtained from the authority having jurisdiction over the aircraft concerned and the lower minima then to be observed shall apply only between those aircraft. Some recorded form of instruction fully covering this reduction of separation minima must be issued by the air traffic control unit concerned.	Not transposed.
16.1.3	Temporary airspace reservation, either stationary or mobile, may be established for the use of large formation flights or other military air operations.	Not transposed. The principle is covered by provisions in Regulation (EC) No 2150/2005 laying down common rules for the flexible use of airspace.

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	Arrangements for the reservation of such airspace shall be accomplished by coordination between the user and the appropriate ATS authority. The coordination shall be effected in accordance with the provisions of Annex 11 and completed early enough to permit timely promulgation of information in accordance with the provisions of Annex 15.	
16.2	RESPONSIBILITY IN REGARD TO UNMANNED FREE BALLOONS	
16.2.1	On receipt of notification of the intended flight of a medium or heavy unmanned free balloon, the air traffic services unit shall arrange for the information to be disseminated to all concerned. The information shall include: a) the balloon flight identification or project code name; b) balloon classification and description; c) SSR code or NDB frequency as applicable; d) the launch site; e) the estimated time of the commencement of the launch or the planned period of the launches; f) the expected direction of ascent; g) the cruising level(s) (pressure-altitude); and h) the estimated elapsed time to pass 18 000 m (60 000 ft) pressure-altitude, or to reach cruising level if at or below 18 000 m (60 000 ft), together with the estimated location.	It is transposed as GM1 ATS.TR.305(a)(6).
16.2.2	On receipt of notification that a medium or heavy unmanned free balloon has been launched, the air traffic services unit shall arrange for the information to be disseminated to all concerned. The information shall include: a) the balloon flight identification or project code name;	It is transposed as GM1 ATS.TR.305(a)(6).

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	b) balloon classification and description; c) SSR code or NDB frequency as applicable; d) the launch site; e) the time of launch(es); f) the estimated time at which 18 000 m (60 000 ft) pressure-altitude will be passed, or the estimated time at which the cruising level will be reached if at or below 18 000 m (60 000 ft), and the estimated location; g) the estimated date and time of termination of the flight; and h) the planned location of ground contact, when applicable.	
16.2.3	When there is reasonable expectation that a heavy or medium unmanned free balloon will cross international borders, the appropriate ATS unit shall arrange for the pre-launch and the launch notifications to be sent by NOTAM to the ATS unit(s) in the State(s) concerned. If agreed between the States concerned, the launch notification may be transmitted orally by direct ATS speech circuit between the ACCs/flight information centres involved.	It is transposed as GM1 ATS.TR.305(a)(6).
16.2.4	Air traffic services units shall maintain radar and/or ADS-B surveillance of medium and heavy unmanned free balloons to the extent possible and, if necessary and on the request of the pilot of an aircraft, provide separation using an ATS surveillance system between the aircraft and such balloons which are identified or their exact position is known.	Not transposed.
16.3	AIR TRAFFIC INCIDENT REPORT	Section 16.3 is not transposed. Principles and procedures for occurrence reporting, applicable also to ATS, including incidents, are established by Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation.
16.3.1	An air traffic incident report shall be submitted, normally to the air traffic services unit concerned, for incidents specifically related to the provision of air traffic services involving such occurrences as aircraft proximity (AIRPROX), or	Not transposed.

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	other serious difficulty resulting in a hazard to aircraft, caused by, among others, faulty procedures, non-compliance with procedures, or failure of ground facilities.	
16.3.2	Procedures should be established for the reporting of aircraft proximity incidents and their investigation to promote the safety of aircraft. The degree of risk involved in an aircraft proximity should be determined in the incident investigation and classified as "risk of collision", "safety not assured", "no risk of collision" or "risk not determined".	Not transposed.
16.3.3	When an accident/incident investigative authority conducts an investigation of an aircraft proximity incident, the air traffic services aspects should be included.	Not transposed.
16.3.3	*Note.— A model air traffic incident report form together with instructions for its completion is at Appendix 4. Further information regarding air traffic incidents is contained in the* Air Traffic Services Planning Manual *(Doc 9426).*	Not transposed.
16.4	**USE OF REPETITIVE FLIGHT PLANS (RPLS)**	Section 16.4 is not transposed. As requirements concerning flight planning included in Section 4.4 address both flight crew and ATS, transposition of this Section is to be considered by SERA.
16.4.1.1	RPLs shall not be used for flights other than IFR flights operated regularly on the same day(s) of consecutive weeks and on at least ten occasions or every day over a period of at least ten consecutive days. The elements of each flight plan shall have a high degree of stability.	
16.4.1.1	*Note.— For permissible incidental changes to RPL data affecting the operation for one particular day, and not intended to be a modification of the listed RPL, see 16.4.4.2.2 and 16.4.4.2.3.*	
16.4.1.2	RPLs shall cover the entire flight from the departure aerodrome to the destination aerodrome. RPL procedures shall be applied only when all ATS authorities concerned with the flights have agreed to accept RPLs.	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
16.4.1.3	The use by States of RPLs for international flight shall be subject to the provision that the affected adjacent States either already use RPLs or will use them at the same time. The procedures for use between States shall be the subject of bilateral, multilateral or regional air navigation agreement as appropriate.	
16.4.2.1	Conditions governing submission, notification of changes, or cancellation of RPLs shall be the subject of appropriate arrangements between operators and the ATS authority concerned or of regional air navigation agreements.	
16.4.2.2	An RPL shall comprise information regarding such of the following items as are considered relevant by the appropriate ATS authority: • validity period of the flight plan • days of operation • aircraft identification • aircraft type and wake turbulence category • MLS capability • departure aerodrome • off-block time • cruising speed(s) • cruising level(s) • route to be followed • destination aerodrome • total estimated elapsed time • indication of the location where the following information may be obtained immediately upon request:	

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
	— alternate aerodromes — fuel endurance — total number of persons on board — emergency equipment • other information.	
16.4.3.1	RPLs shall be submitted in the form of listings containing the required flight plan data using an RPL listing form specially designed for the purpose or by means of other media suitable for electronic data processing. The method of submission shall be determined by local or regional agreement.	
16.4.3.1	*Note.— A model RPL listing form is contained in Appendix 2.*	
16.4.3.2	Initial submission of complete RPL listings and any subsequent seasonal resubmission of complete listings shall be made in sufficient time to permit the data to be properly assimilated by the ATS organization. The minimum lead time required for the submission of such listings shall be established by the administrations concerned and published in their AIPs. This minimum lead time shall be at least two weeks.	
16.4.3.3	Operators shall submit listings to the designated agency for distribution to the appropriate air traffic services units.	
16.4.3.4	The information normally to be provided shall be that listed in 16.4.2.2 except that administrations may also require the provision of estimate information of FIR boundaries and the primary alternate aerodrome. If so required, such information shall be provided as indicated on an RPL listing form specially designed for the purpose.	

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16.4.3.5	Information regarding alternate aerodrome(s) and supplementary flight plan data (information normally provided under Item 19 of the ICAO flight plan form) shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. The name of the office from which the information can be obtained shall be recorded on the RPL listing form.	
16.4.3.6	Acknowledgement of receipt of listings of flight plan data and/or amendment thereto shall not be required except by agreement between operators and the appropriate agency.	
16.4.4.1.1	Changes of a permanent nature involving the inclusion of new flights and the deletion or modification of currently listed flights shall be submitted in the form of amendment listings. These listings shall reach the air traffic services agency concerned at least seven days prior to the change becoming effective.	
16.4.4.1.2	Where RPL listings have been initially submitted by the use of media suitable for electronic data processing, it shall be permissible by mutual agreement between the operator and the appropriate authority for some changes to be submitted by means of RPL listing forms.	
16.4.4.1.3	All RPL changes shall be submitted in accordance with the instructions for preparation of RPL listings.	
16.4.4.2.1	Changes of a temporary, non-recurring nature relating to RPLs concerning aircraft type and wake turbulence category, speed and/or cruising level shall be notified for each individual flight as early as possible and not later than 30 minutes before departure to the ATS reporting office responsible for the departure aerodrome. A change of cruising level only may be notified by radiotelephony on initial contact with the ATS unit.	
16.4.4.2.2	In case of an incidental change in the aircraft identification, the departure aerodrome, the route and/or the destination aerodrome, the RPL shall be	

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	cancelled for the day concerned and an individual flight plan shall be submitted.	
16.4.4.2.3	Whenever it is expected by the operator that a specific flight, for which an RPL has been submitted, is likely to encounter a delay of 30 minutes or more in excess of the off-block time stated in that flight plan, the ATS unit responsible for the departure aerodrome shall be notified immediately.	
16.4.4.2.3	*Note.— Because of the stringent requirements of flow control, failure by operators to comply with this procedure may result in the automatic cancellation of the RPL for that specific flight at one or more of the ATS units concerned.*	
16.4.4.2.4	Whenever it is known to the operator that any flight for which an RPL has been submitted is cancelled, the ATS unit responsible for the departure aerodrome shall be notified.	
16.4.4.3	The operator shall ensure that the latest flight plan information, including permanent and incidental changes, pertaining to a particular flight and duly notified to the appropriate agency, is made available to the pilot-in-command.	
16.4.4.4	The procedures for handling RPLs described herein are applicable regardless of whether automatic data-processing equipment is utilized or flight plan data is handled manually.	
16.4.4.5.1	Procedures for use of RPLs may be established for flights operating within a single FIR or a single State.	
16.4.4.5.2	Procedures may also be established for flights across international boundaries subject to the provision that affected States currently utilize or will concurrently use RPLs.	

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16.4.4.5.3	Application of RPL procedures for international flights requires the establishment of bilateral or multilateral agreements between the States concerned. Multilateral agreements involving a number of States may take the form of regional air navigation agreements.	
16.4.4.5.4	Application of RPLs requires agreements with participating operators to establish submission and amendment procedures.	
16.4.4.5.5	Agreements shall include provisions for the following procedures: a) initial submission; b) permanent changes; c) temporary and incidental changes; d) cancellations; e) additions; and f) completely revised listings when indicated by extensive changes.	
16.4.4.6.1	Any State using RPLs shall designate one or more agencies responsible for administering such data. The area of responsibility for any such designated agency shall be at least one FIR. However, part or the entire area of responsibility of one or more States may be administered jointly by a designated agency. Each designated agency shall distribute relevant RPL data to the ATS units concerned within its area of responsibility so that such data reach these units in sufficient time to become effective.	
16.4.4.6.2	RPLs shall be stored by each ATS unit concerned in a manner that will ensure that they are systematically activated on the appropriate day of operation in the order of estimated times indicative of entry into the unit's area of responsibility. Activation shall be accomplished in sufficient time to present the data to the controller in appropriate form for analysis and control action.	

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16.4.4.7	An appropriate ATS authority obliged, due to exceptional circumstances, to temporarily suspend the use of RPLs in its area of responsibility, or a specified part thereof, shall publish notice of such suspension with as much advance notice as possible and in the most suitable form considering the circumstances.	
16.4.4.8	ATS messages relating to individual flights operating on an RPL shall be originated and addressed to ATS units concerned in a manner identical to that used for flights operating on individual flight plans.	
16.5	**STRATEGIC LATERAL OFFSET PROCEDURES (SLOP)**	Section 16.5 is not transposed, as SLOP is intended for oceanic airspace, which is not in the scope of Part-ATS.
16.5	*Note 1.— SLOP are approved procedures that allow aircraft to fly on a parallel track to the right of the centre line relative to the direction of flight to mitigate the lateral overlap probability due to increased navigation accuracy and* *wake turbulence encounters. Unless specified in the separation standard, an aircraft's use of these procedures does not affect the application of prescribed separation standards.*	
16.5	*Note 2.— Annex 2, 3.6.2.1.1, requires authorization for the application of strategic lateral offsets from the appropriate ATS authority responsible for the airspace concerned.*	
16.5.1	Implementation of strategic lateral offset procedures shall be coordinated among the States involved.	
16.5.1	*Note.— Information concerning the implementation of strategic lateral offset procedures is contained in the* Implementation of Strategic Lateral Offset Procedures *(Circular 331).*	
16.5.2	Strategic lateral offsets shall be authorized only in en-route airspace as follows: a) where the lateral separation minima or spacing between route centre lines is	Modifications (amended text) introduced with ICAO AN-WP/9014.

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	42,6 km (23 NM) or more, offsets to the right of the centre line relative to the direction of flight in tenths of a nautical mile up to a maximum of 3.7 km (2 NM); and b) where the lateral separation minima or spacing between route centre lines is 11.1 km (6 NM) or more and less than 42,6 km (23 NM), offsets to the right of the centre line relative to the direction of flight in tenths of a nautical mile up to a maximum of 0.9 km (0.5 NM).	
16.5.3	The routes or airspace where application of strategic lateral offsets is authorized, and the procedures to be followed by pilots, shall be promulgated in aeronautical information publications (AIPs). In some instances, it may be necessary to impose restrictions on the use of strategic lateral offsets, e.g. where their application may be inappropriate for reasons related to obstacle clearance. Route conformance monitoring systems shall account for the application of SLOP.	
16.5.4	The decision to apply a strategic lateral offset shall be the responsibility of the flight crew. The flight crew shall only apply strategic lateral offsets in airspace where such offsets have been authorized by the appropriate ATS authority and when the aircraft is equipped with automatic offset tracking capability.	
16.5.4	*Note 1.— Pilots may contact other aircraft on the inter-pilot air-to-air frequency 123.45 MHz to coordinate offsets.*	
16.5.4	*Note 2.— The strategic lateral offset procedure has been designed to include offsets to mitigate the effects of wake turbulence of preceding aircraft. If wake turbulence needs to be avoided, an offset to the right and within the limits* *specified in 16.5.2 may be used.*	
16.5.4	*Note 3.— Pilots are not required to inform ATC that a strategic lateral offset is being applied.*	

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16.6	NOTIFICATION OF SUSPECTED COMMUNICABLE DISEASES, OR OTHER PUBLIC HEALTH RISK, ON BOARD AN AIRCRAFT	Section 16.6 is not transposed. Its transposition is to be considered by SERA.
16.6.1	The flight crew of an en-route aircraft shall, upon identifying a suspected case(s) of communicable disease, or other public health risk, on board the aircraft, promptly notify the ATS unit with which the pilot is communicating, the information listed below: a) aircraft identification; b) departure aerodrome; c) destination aerodrome; d) estimated time of arrival; e) number of persons on board; f) number of suspected case(s) on board; and g) nature of the public health risk, if known.	
16.6.2	The ATS unit, upon receipt of information from a pilot regarding suspected case(s) of communicable disease, or other public health risk, on board the aircraft, shall forward a message as soon as possible to the ATS unit serving the destination/departure, unless procedures exist to notify the appropriate authority designated by the State and the aircraft operator or its designated representative.	
16.6.3	When a report of a suspected case(s) of communicable disease, or other public health risk, on board an aircraft is received by an ATS unit serving the destination/departure, from another ATS unit or from an aircraft or an aircraft operator, the unit concerned shall forward a message as soon as possible to the public health authority (PHA) or the appropriate authority designated by the State as well as the aircraft operator or its designated representative, and the aerodrome authority.	

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16.6.3	*Note 1.— See Annex 9 —* Facilitation, *Chapter 1 (Definitions), Chapter 8, 8.12 and 8.15, and Appendix 1, for relevant additional information related to the subject of communicable disease and public health risk on board an aircraft.*	
16.6.3	*Note 2.— The PHA is expected to contact the airline representative or operating agency and aerodrome authority, if applicable, for subsequent coordination with the aircraft concerning clinical details and aerodrome preparation. Depending on the communications facilities available to the airline representative or operating agency, it may not be possible to communicate with the aircraft until it is closer to its destination. Apart from the initial notification to the ATS unit whilst en-route, ATC communications channels are to be avoided.*	
16.6.3	*Note 3.— The information to be provided to the departure aerodrome will prevent the potential spread of communicable disease, or other public health risk, through other aircraft departing from the same aerodrome.*	
16.6.3	*Note 4.— AFTN (urgency message), telephone, facsimile or other means of transmission may be used.*	
Appendix 1	INSTRUCTIONS FOR AIR-REPORTING BY VOICE COMMUNICATION	Not transposed. It is to be considered by SERA.
Appendix 2	FLIGHT PLAN	Not transposed. It is to be considered by SERA.
Appendix 3	AIR TRAFFIC SERVICES MESSAGES	
Appendix 4	AIR TRAFFIC INCIDENT REPORT	Not transposed. Principles and procedures for occurrence reporting, applicable also to ATS, including incidents, are established by Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation.

PANS identifier	ICAO PANS ATM text	Proposed transposition into EU ATS requirements (IR/AMC/GM, none)
Appendix 5	CONTROLLER-PILOT DATA LINK COMMUNICATIONS (CPDLC) MESSAGE SET	Not transposed. It is to be considered by SERA.