

**Appendix V – Table presenting draft SERA Part B versus ICAO SARPs**

<b>DRAFT SERA Part B: Requirements regarding services in air navigation</b>	<b>ICAO Annex 11 reference</b>
<b>Chapter 1 – Air Traffic Services</b>	
<b>1.1 General</b>	
1.1.1 Objectives of the air traffic services	<b>2.2</b>
1.1.1.1 The objectives of the air traffic services shall be to:	
a) prevent collisions between aircraft;	
b) prevent collisions between aircraft on the manoeuvring area and obstructions on that area;	
c) expedite and maintain an orderly flow of air traffic;	
d) provide advice and information useful for the safe and efficient conduct of flights;	
e) notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.	
1.1.2 Coordination between the <b>aircraft</b> operator and air traffic services	<b>2.16</b>
1.1.2.1 Air traffic services units, in carrying out their objectives, shall have due regard for the requirements of the <b>aircraft</b> operators consequent on their obligations as specified in Annex 6 <b>the relevant Union rules on Air Operations</b> , and, if so required by the <b>aircraft</b> operators, shall make available to them or their designated representatives such information as may be available to enable them or their designated representatives to carry out their responsibilities.	<b>2.16.1</b>
1.1.2.2 When so requested by an <b>aircraft</b> operator, messages (including position reports) received by air traffic services units and relating to the operation of the aircraft for which operational control service is provided by that <b>aircraft</b> operator shall, so far as practicable, be made available immediately to the <b>aircraft</b> operator or a designated representative in accordance with locally agreed procedures.	<b>2.16.2</b>
1.1.3 Time in air traffic services	<b>2.25</b>
1.1.3.1 Aerodrome control towers shall, prior to an aircraft taxiing for take-off, provide the pilot with the correct time, unless arrangements have been made for the pilot to obtain it from other sources. Air traffic services units shall, in addition, provide aircraft with the correct time on request. Time checks shall be given to the nearest half minute.	<b>2.25.5</b>
1.2 Classification of airspaces	<b>2.6</b>

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<p>1.2.1 <del>ATS airspace shall be classified and designated</del> States shall, as appropriate to their needs, designate airspace in accordance with the following airspace classification as defined below and in accordance with Appendix 1:</p> <p><i>Class A.</i> IFR flights only are permitted, all flights are provided with air traffic control service and are separated from each other. Continuous air-ground voice communications are required for all flights. All flights shall be subject to ATC clearance.</p> <p><i>Class B.</i> IFR and VFR flights are permitted, all flights are provided with air traffic control service and are separated from each other. Continuous air-ground voice communications are required for all flights. All flights shall be subject to ATC clearance.</p> <p><i>Class C.</i> IFR and VFR flights are permitted, all flights are provided with air traffic control service and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights and traffic avoidance advice on request. Continuous air-ground voice communications are required for all flights. For VFR flights a speed limitation of 250 kt IAS applies below 3 050 m (10 000 ft) AMSL. All flights shall be subject to ATC clearance..</p> <p><i>Class D.</i> IFR and VFR flights are permitted and all flights are provided with air traffic control service, IFR flights are separated from other IFR flights, <del>and</del> receive traffic information in respect of VFR flights and traffic avoidance advice on request, VFR flights receive traffic information in respect of all other flights and traffic avoidance advice on request. Continuous air-ground voice communications are required for all flights and a speed limitation of 250 kt IAS applies to all flights below 3 050 m (10 000 ft) AMSL. All flights shall be subject to ATC clearance..</p> <p><i>Class E.</i> IFR and VFR flights are permitted, IFR flights are provided with air traffic control service and are separated from other IFR flights. All flights receive traffic information as far as is practical. Continuous air-ground voice communications are required for IFR flights. A speed limitation of 250 kt IAS applies to all flights below 3 050 m (10 000 ft) AMSL. All IFR flights shall be subject to ATC clearance. Class E shall not be used for control zones.</p> <p><i>Class F.</i> IFR and VFR flights are permitted, all participating IFR flights receive an air traffic advisory service and all flights receive flight information service if requested. Continuous air-ground voice communications are required for IFR flights participating in the advisory service and all IFR flights shall be capable of establishing air-ground voice communications. A speed limitation of 250 kt IAS applies to all flights below 3 050 m (10 000 ft) AMSL. ATC clearance is not required.</p> <p><i>Class G.</i> IFR and VFR flights are permitted and receive flight information service if requested. All IFR flights shall be capable of establishing air-ground voice communications. A speed limitation of 250 kt IAS applies to all flights below 3 050 m (10 000 ft) AMSL. ATC clearance is not required.</p>	<p>2.6.1</p> <p>Based on note</p>

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<p>1.2.2 Implementation of Class F shall be considered as a temporary measure until such time as it can be replaced by alternative classification. Such temporary application of advisory service shall not exceed 3 years.</p>	to 2.6.1, Class F
<p><b>1.3 Requirements for communications and SSR transponder</b></p>	
<p><b>1.3.1 Radio Mandatory Zone (RMZ)</b></p>	
<p>1.3.1.1 VFR flights operating in parts of classes E, F or G airspace and IFR flights operating in parts of classes F or G airspace, designated as a radio mandatory zone (RMZ) by the competent authority, shall maintain continuous air-ground voice communication watch and establish two-way communication, as necessary, on the appropriate communication channel.</p>	
<p>1.3.1.2 Before entering a radio mandatory zone an initial call containing the designation of the station being called, call sign, type of aircraft, position, level, the intentions of the flight and other information as prescribed by the competent authority, shall be made by pilots on the appropriate communication channel.</p>	
<p><b>1.3.2 Transponder Mandatory Zone (TMZ)</b></p>	
<p>1.3.2.1 For all flights operating in the airspace designated by the competent authority as a transponder mandatory zone (TMZ) in accordance with relevant Union and national rules, the mandatory carriage and operation of SSR transponders capable of operating on Modes A and C or on Mode S shall be required</p>	2.26
<p>1.3.3 Airspaces designated as Radio Mandatory Zone and/or Transponder Mandatory Zone shall be duly promulgated in the Aeronautical Information Publications.</p>	
<p><b>1.4 Service to aircraft in the event of an emergency</b></p>	
<p>1.4.1 <b>In the case of a</b> An aircraft known or believed to be in a state of emergency, including being subjected to unlawful interference, <b>air traffic services units shall give the aircraft</b> <del>shall be given</del> maximum consideration, assistance and priority over other aircraft as may be necessitated by the circumstances.</p>	2.23
<p>1.4.2 When an occurrence of unlawful interference with an aircraft takes place or is suspected, air traffic services units shall attend promptly to requests by the aircraft. Information pertinent to the safe conduct of the flight shall continue to be transmitted and necessary action shall be taken to expedite the conduct of all phases of the flight, especially the safe landing of the aircraft.</p>	2.23.2
<p>1.4.3 When an occurrence of unlawful interference with an aircraft takes place or is suspected, air traffic services units shall, in accordance with locally agreed procedures, immediately inform the appropriate authority designated by the State and exchange necessary information with the <b>aircraft</b> operator or its designated representative.</p>	2.23.3

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<b>1.5 In-flight contingencies</b>	<b>2.24</b>
1.5.1 Strayed or unidentified aircraft	<b>2.24.1</b>
1.5.1.1 As soon as an air traffic services unit becomes aware of a strayed aircraft it shall take all necessary steps as outlined in <b>1.5.1.1.1</b> and <b>1.5.1.1.3</b> to assist the aircraft and to safeguard its flight.	<b>2.24.1.1</b>
1.5.1.1.1 If the aircraft's position is not known, the air traffic services unit shall: <ul style="list-style-type: none"> <li>a) attempt to establish two-way communication with the aircraft, unless such communication already exists;</li> <li>b) use all available means to determine its position;</li> <li>c) inform other air traffic services 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;</li> <li>d) inform, in accordance with locally agreed procedures, appropriate military units and provide them with pertinent flight plan and other data concerning strayed aircraft;</li> <li>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.</li> </ul>	<b>2.24.1.1.1</b>
1.5.1.1.2 <del>Note</del> The requirements in d) and e) <b>shall</b> apply also to air traffic services units informed in accordance with c).	<b>Note to 2.24.1.1.1</b>
1.5.1.1.3 When the aircraft's position is established, the air traffic services unit shall: <ul style="list-style-type: none"> <li>a) advise the aircraft of its position and corrective action to be taken. <b>This advice shall be immediately provided when ATS is aware that there is a possibility of interception or other hazard to the safety of the aircraft;</b> and</li> <li>b) provide, as necessary, other air traffic services units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.</li> </ul>	<b>2.24.1.1.2</b>  <b>Based on note to 2.24.1.1</b>
1.5.1.2 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 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:	<b>2.24.1.2</b>

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<ul style="list-style-type: none"> <li>a) attempt to establish two-way communication with the aircraft;</li> <li>b) inquire of other air traffic services units within the flight information region about the flight and request their assistance in establishing two-way communication with the aircraft;</li> <li>c) inquire of air traffic services units serving the adjacent flight information regions about the flight and request their assistance in establishing two-way communication with the aircraft;</li> <li>d) attempt to obtain information from other aircraft in the area.</li> </ul>	
<p>1.5.1.2.1 The air traffic services unit shall, as necessary, inform the appropriate military unit as soon as the identity of the aircraft has been established.</p>	<b>2.24.1.2.1</b>
<p>1.5.1.3 <b>Note 1.</b>— <b>In the case of a strayed or unidentified aircraft, the possibility of the aircraft being subject of unlawful interference shall be taken into account.</b> See 2.24.1.3. Should the air traffic services 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.</p>	<b>Note 1 to 2.23 3</b>
<p>1.5.2 Interception of civil aircraft</p>	<b>2.24.1.3</b>
<p>1.5.2.1 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:</p> <ul style="list-style-type: none"> <li>a) attempt to establish two-way communication with the intercepted aircraft via any means available, including the emergency radio frequency 121.5 MHz, unless such communication already exists;</li> <li>b) inform the pilot of the intercepted aircraft of the interception;</li> <li>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;</li> <li>d) relay messages between the intercepting aircraft or the intercept control unit and the intercepted aircraft, as necessary;</li> <li>e) in close coordination with the intercept control unit take all necessary steps to ensure the safety of the intercepted aircraft;</li> <li>f) inform air traffic services units serving adjacent flight information regions if it appears that the aircraft has strayed from such adjacent flight information regions.</li> </ul>	<b>2.24.2</b>
<p>1.5.2.2 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:</p> <ul style="list-style-type: none"> <li>a) inform the air traffic services unit serving the airspace in which the</li> </ul>	<b>2.24.2.1</b>

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<p>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 1.5.2.1;</p> <p>b) relay messages between the intercepted aircraft and the appropriate air traffic services unit, the intercept control unit or the intercepting aircraft.</p>	
<p style="text-align: center;"><b>Chapter 2 – Air Traffic Control Service</b></p> <p><b>2.1 Application</b></p> <p>2.1.1 Air traffic control service shall be provided:</p> <p>a) to all IFR flights in airspace Classes A, B, C, D and E;</p> <p>b) to all VFR flights in airspace Classes B, C and D;</p> <p>c) to all special VFR flights;</p> <p>d) to all aerodrome traffic at controlled aerodromes.</p> <p><b>2.2 Operation of air traffic control service</b></p> <p>2.2.1 In order to provide air traffic control service, an air traffic control unit shall:</p> <p>a) be provided with information on the intended movement of each aircraft, or variations therefrom, and with current information on the actual progress of each aircraft;</p> <p>b) determine from the information received, the relative positions of known aircraft to each other;</p> <p>c) issue clearances and information for the purpose of preventing collision between aircraft under its control and of expediting and maintaining an orderly flow of traffic;</p> <p>d) coordinate clearances as necessary with other units:</p> <p style="padding-left: 40px;">1) whenever an aircraft might otherwise conflict with traffic operated under the control of such other units;</p> <p style="padding-left: 40px;">2) before transferring control of an aircraft to such other units.</p> <p>2.2.2 Clearances issued by air traffic control units shall provide separation:</p> <p>a) between all flights in airspace Classes A and B;</p> <p>b) between IFR flights in airspace Classes C, D and E;</p>	<p><b>Chapter 3</b></p> <p><b>3.1</b></p> <p><b>3.3</b></p> <p><b>3.3.1</b></p> <p><b>3.3.4</b></p>

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<p>c) between IFR flights and VFR flights in airspace Class C;</p> <p>d) between IFR flights and special VFR flights;</p> <p>e) between special VFR flights <del>when so</del> <b>unless otherwise</b> prescribed by the <del>appropriate ATS</del> <b>competent</b> authority;</p>	
<p>except that, when requested by an aircraft and <b>agreed by the pilot of the other aircraft</b> and if so prescribed by the <del>appropriate ATS</del> <b>competent</b> authority for the cases listed under b) above in airspace Classes D and E, a flight may be cleared without separation being so provided in respect of a specific portion of the flight <del>conducted</del> <b>below 3050 M (10 000 ft) during climb or descent, during day</b> in visual meteorological conditions.</p>	
<p>2.2.3 Separation by an air traffic control unit shall be obtained by at least one of the following:</p> <p>a) vertical separation, obtained by assigning different levels selected from the <del>appropriate</del> table of cruising levels in <b>SERA Part A Appendix 2</b> <del>Appendix 3 of Annex 2, or</del>  [Editorial note: specific reference will be confirmed when Part A is adopted].</p> <p><del>2) a modified table of cruising levels, when so prescribed in accordance with Appendix 3 of Annex 2 for flight above FL 410,</del></p> <p>except that the correlation of levels to track as prescribed therein shall not apply whenever otherwise indicated in appropriate aeronautical information publications or air traffic control clearances;</p> <p>b) horizontal separation, obtained by providing:</p> <p>1) longitudinal separation, by maintaining an interval between aircraft operating along the same, converging or reciprocal tracks, expressed in time or distance; or</p> <p>2) lateral separation, by maintaining aircraft on different routes or in different geographical areas;</p> <p><del>c) composite separation, consisting of a combination of vertical separation and one of the other forms of separation contained in b) above, using minima for each which may be lower than, but not less than half of, those used for each of the combined elements when applied individually. Composite separation shall only be applied on the basis of regional air navigation agreements.</del></p>	<p><b>3.3.5</b></p>
<p><b>2.3 Separation minima</b></p>	<p><b>3.4</b></p>
<p>2.3.1 The selection of separation minima for application within a given portion of airspace shall be as follows:</p>	<p><b>3.4.1</b></p>

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<p>a) <b>the selection of separation minima shall be done in accordance with the provisions adopted under the Chicago Convention</b> <del>the separation minima shall be selected from those prescribed by the provisions of the PANS-ATM and the <i>Regional Supplementary Procedures</i> as applicable under the prevailing circumstances except that, where types of aids are used or circumstances prevail which are not covered by current ICAO provisions, other separation minima shall be established as necessary by:</del>  <b>The Commission shall propose measures with regards to the selection of separation minima.</b></p> <p>[Editorial note: the content of this paragraph may be amended as a function of the future work on Part C]</p> <p><del>1) the appropriate ATS authority, following consultation with aircraft operators, for routes or portions of routes contained within the sovereign airspace of a State;</del></p> <p><del>2) regional air navigation agreements for routes or portions of routes contained within airspace over the high seas or over areas of undetermined sovereignty.</del></p> <p><del><i>Note. Details of current separation minima prescribed by ICAO are contained in the PANS-ATM (Doc 4444) and Part 1 of the Regional Supplementary Procedures (Doc 7030).</i></del></p> <p>b) the selection of separation minima shall be made in consultation between the <del>appropriate ATS authorities</del> <b>entities</b> responsible for the provision of air traffic services in neighbouring airspace, <b>and approved by the competent authorities concerned</b>, when:</p> <p>1) traffic will pass from one into the other of the neighbouring airspaces;</p> <p>2) routes are closer to the common boundary of the neighbouring airspaces than the separation minima applicable in the circumstances.</p> <p>2.3.2 Details of the selected separation minima and of their areas of application shall be notified:</p> <p>a) to the air traffic services units concerned; and</p> <p>b) to pilots and <b>aircraft</b> operators through aeronautical information publications, where separation is based on the use by aircraft of specified navigation aids or specified navigation techniques.</p> <p><b>2.4 Air traffic control clearances</b></p>	<p><b>3.4.2</b></p> <p><b>3.7</b></p>

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2.4.1 Air traffic control clearances shall be based solely on the requirements for providing air traffic control service.	
2.4.2 Contents of clearances	<b>3.7.1</b>
2.4.2.1 An air traffic control clearance shall indicate: <ul style="list-style-type: none"> <li>a) aircraft identification as shown in the flight plan;</li> <li>b) clearance limit;</li> <li>c) route of flight;</li> <li>d) level(s) of flight for the entire route or part thereof and changes of levels if required;</li> <li>e) any necessary instructions or information on other matters such as approach or departure manoeuvres, communications and the time of expiry of the clearance.</li> </ul>	<b>3.7.1.1</b>
2.4.3 Clearances for transonic flight	<b>3.7.2</b>
2.4.3.1 The air traffic control clearance relating to the transonic acceleration phase of a supersonic flight shall extend at least to the end of that phase.	<b>3.7.2.1</b>
2.4.3.2 The air traffic control clearance relating to the deceleration and descent of an aircraft from supersonic cruise to subsonic flight <b>shall</b> <del>should</del> provide for uninterrupted descent, <del>at least</del> during the transonic phase.	<b>3.7.2.2 (RP)</b>
2.4.4 Read-back of clearances and safety-related information	<b>3.7.3</b>
2.4.4.1 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: <ul style="list-style-type: none"> <li>a) ATC route clearances;</li> <li>b) clearances and instructions to enter, land on, take off from, hold short of, cross and backtrack on any runway; and</li> <li>c) runway-in-use, altimeter settings, SSR codes, <b>newly assigned communication channels</b>, level instructions, heading and speed instructions and, whether issued by the controller or contained in ATIS broadcasts, transition levels.</li> </ul>	<b>3.7.3.1</b>
2.4.4.1.1 Other clearances or instructions, including conditional clearances <b>and taxi instructions</b> , shall be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.	<b>3.7.3.1.1</b>

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2.4.4.1.2 The controller shall listen to the read-back 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 read-back.	<b>3.7.3.1.2</b>
2.4.4.2 <del>Unless specified by the appropriate ATS authority, v</del> Voice read-back of CPDLC messages shall not be required, <b>unless otherwise prescribed by the competent authority.</b>	<b>3.7.3.2</b>
2.4.5 Coordination of clearances	<b>3.7.4</b>
2.4.5.1 An air traffic control clearance shall be coordinated between air traffic control units to cover the entire route of an aircraft or a specified portion thereof as follows.	
2.4.5.1.1 An aircraft shall be cleared for the entire route to the aerodrome of first intended landing: <ul style="list-style-type: none"> <li>a) when it has been possible, prior to departure, to coordinate the clearance between all the units under whose control the aircraft will come; or</li> <li>b) when there is reasonable assurance that prior coordination will be effected between those units under whose control the aircraft will subsequently come.</li> </ul>	<b>3.7.4.1</b>
2.4.5.2 When coordination as in <b>2.4.5.1.1</b> has not been achieved or is not anticipated, the aircraft shall be cleared only to that point where coordination is reasonably assured; prior to reaching such point, or at such point, the aircraft shall receive further clearance, holding instructions being issued as appropriate.	<b>3.7.4.2</b>
2.4.5.2.1 When prescribed by the ATS unit, aircraft shall contact a downstream air traffic control unit, for the purpose of receiving a downstream clearance prior to the transfer of control point.	<b>3.7.4.2.1</b>
2.4.5.2.1.1 Aircraft shall maintain the necessary two-way communication with the current air traffic control unit whilst obtaining a downstream clearance.	<b>3.7.4.2.1.1</b>
2.4.5.2.1.2 A clearance issued as a downstream clearance shall be clearly identifiable as such to the pilot.	<b>3.7.4.2.1.2</b>
2.4.5.2.1.3 Unless coordinated, downstream clearances shall not affect the aircraft's original flight profile in any airspace, other than that of the air traffic control unit responsible for the delivery of the downstream clearance.	<b>3.7.4.2.1.3</b>
2.4.5.3 When an aircraft intends to depart from an aerodrome within a control area to enter another control area within a period of thirty minutes, or such other specific period of time as has been agreed between the area control centres concerned, coordination with the subsequent area control centre shall be effected prior to issuance of the departure clearance.	<b>3.7.4.3</b>
2.4.5.4 When an aircraft intends to leave a control area for flight outside	<b>3.7.4.4</b>

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<p>controlled airspace, and will subsequently re-enter the same or another control area, a clearance from point of departure to the aerodrome of first intended landing may be issued. Such clearance or revisions thereto shall apply only to those portions of the flight conducted within controlled airspace.</p>	
<p><b>2.5 Control of persons and vehicles at aerodromes</b></p>	<b>3.8</b>
<p>2.5.1 The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome shall be controlled by the aerodrome control tower as necessary to avoid hazard to them or to aircraft landing, taxiing or taking off.</p>	<b>3.8.1</b>
<p>2.5.2 In conditions where low visibility procedures are in operation:</p> <ul style="list-style-type: none"> <li>a) persons and vehicles operating on the manoeuvring area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the ILS/MLS sensitive area(s) when Category II or Category III precision instrument operations are in progress;</li> <li>b) subject to the provisions in 2.5.3, the minimum separation between vehicles and taxiing aircraft shall be as <del>prescribed</del> approved by the <del>appropriate ATS</del> competent authority taking into account the aids available;</li> <li>c) when mixed ILS and MLS Category II or Category III precision instrument operations are taking place to the same runway continuously, the more restrictive ILS or MLS critical and sensitive areas shall be protected.</li> </ul>	<b>3.8.2</b>
<p>2.5.3 Emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic.</p>	<b>3.8.3</b>
<p>2.5.4 Subject to the provisions in 2.5.3, vehicles on the manoeuvring area shall be required to comply with the following rules:</p> <ul style="list-style-type: none"> <li>a) vehicles and vehicles towing aircraft shall give way to aircraft which are landing, taking off or taxiing;</li> <li>b) vehicles shall give way to other vehicles towing aircraft;</li> <li>c) vehicles shall give way to other vehicles in accordance with air traffic services unit instructions;</li> <li>d) notwithstanding the provisions of a), b) and c), vehicles and vehicles towing aircraft shall comply with instructions issued by the aerodrome control tower.</li> </ul>	<b>3.8.4</b>
<p><b>2.6 Special VFR in control zones</b></p>	

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<p>2.6.1 Special VFR flights may be authorized to operate within a control zone, subject to an ATC clearance. Except when permitted by the competent authority for helicopters in special cases such as medical flights, search and rescue operations and fire-fighting, the following additional conditions shall be applied:</p> <p>a) by ATC:</p> <ul style="list-style-type: none"> <li>i) during day only;</li> <li>ii) the ground visibility is not less than 1 500 m or, for helicopters, not less than 800 m;</li> <li>iii) the ceiling is not less than 180 m (600 ft); and</li> </ul> <p>b) by the pilot:</p> <ul style="list-style-type: none"> <li>i) clear of cloud and with the surface in sight;</li> <li>ii) the flight visibility is not less than 1 500 m or, for helicopters, not less than 800 m;</li> <li>iii) at speed of 140 kts IAS or less to give adequate opportunity to observe other traffic and any obstacles in time to avoid a collision</li> </ul>	
<p style="text-align: center;"><b>Chapter 3 – Flight Information Service</b></p> <p><b>3.1 Application</b></p> <p>3.1.1 Flight information service shall be provided by the appropriate air traffic services units to all aircraft which are likely to be affected by the information and which are:</p> <ul style="list-style-type: none"> <li>a) provided with air traffic control service; or</li> <li>b) otherwise known to the relevant air traffic services units.</li> </ul> <p>3.1.2 The reception of flight information service does not relieve the pilot-in-command of an aircraft of any responsibilities and the pilot-in-command <del>has to</del> shall make the final decision regarding any suggested alteration of flight plan.</p> <p>3.1.3 Where air traffic services units provide both flight information service and air traffic control service, the provision of air traffic control service shall have precedence over the provision of flight information service whenever the provision of air traffic control service so requires.</p> <p><b>3.2 Scope of flight information service</b></p>	<p><b>Chapter 4</b></p> <p><b>4.1</b></p> <p><b>4.1.1</b></p> <p><b>Note to 4.1.1</b></p> <p><b>4.1.2</b></p> <p><b>4.2</b></p>

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<p>3.2.1 Flight information service shall include the provision of pertinent:</p> <ul style="list-style-type: none"> <li>a) SIGMET and AIRMET information;</li> <li>b) information concerning pre-eruption volcanic activity, volcanic eruptions and volcanic ash clouds;</li> <li>c) information concerning the release into the atmosphere of radioactive materials or toxic chemicals;</li> <li>d) information on changes in the availability of radio navigation services;</li> <li>e) information on changes in condition of aerodromes and associated facilities, including information on the state of the aerodrome movement areas when they are affected by snow, ice or significant depth of water;</li> <li>f) information on unmanned free balloons;</li> </ul> <p>and of any other information likely to affect safety.</p>	4.2.1
<p>3.2.2 Flight information service provided to flights shall include, in addition to that outlined in 3.2.1, the provision of information concerning:</p> <ul style="list-style-type: none"> <li>a) weather conditions reported or forecast at departure, destination and alternate aerodromes;</li> <li>b) collision hazards, to aircraft operating in airspace Classes C, D, E, F and G;</li> <li>c) for flight over water areas, in so far as practicable and when requested by a pilot, any available information such as radio call sign, position, true track, speed, etc., of surface vessels in the area.</li> </ul>	4.2.2
<p>3.2.3 Flight information service provided to VFR flights shall include, in addition to that outlined in 3.2.1, the provision of available information concerning traffic and weather conditions along the route of flight that are likely to make operation under the visual flight rules impracticable.</p>	4.2.4
<p><b>3.3 Automatic Terminal Information Service (ATIS)</b></p>	
<p>3.3.1 Use of the <b>ATIS</b> <del>OFIS</del>-messages in directed request/reply transmissions</p> <p>3.3.1.1 When requested by the pilot, the applicable <b>ATIS</b> <del>OFIS</del>-message(s) shall be transmitted by the appropriate air traffic services unit.</p>	4.3.1.4
<p>3.3.1.2 Whenever Voice-ATIS and/or D-ATIS is provided the appropriate air traffic services unit shall, when replying to <b>an aircraft acknowledging receipt of an ATIS</b> the message <del>in e) above</del> or, in the case of arriving aircraft, at such other time as may be prescribed by the <b>competent</b> authority, provide the aircraft with the current altimeter</p>	4.3.6.1 f)

<b>DRAFT SERA Part B: Requirements regarding services in air navigation</b>	<b>ICAO Annex 11 reference</b>
<p>setting; and</p> <p>3.3.1.3 Information contained in a current ATIS, the receipt of which has been acknowledged by the aircraft concerned, need not be included in a directed transmission to the aircraft, with the exception of the altimeter setting, which shall be provided in accordance with 3.3.1.2.</p> <p>3.3.1.4 If an aircraft acknowledges receipt of an ATIS that is no longer current, any element of information that needs updating shall be transmitted to the aircraft without delay.</p>	<p><b>4.3.6.3</b></p> <p><b>4.3.6.4</b></p>

<p>3.3.2 ATIS for arriving and departing aircraft</p> <p>3.3.2.1 ATIS messages containing both arrival and departure information shall contain the following elements of information in the order listed:</p> <ul style="list-style-type: none"> <li>a) name of aerodrome;</li> <li>b) arrival and/or departure indicator;</li> <li>c) contract type, if communication is via D-ATIS;</li> <li>d) designator;</li> <li>e) time of observation, if appropriate;</li> <li>f) type of approach(es) to be expected;</li> <li>g) the runway(s) in use; status of arresting system constituting a potential hazard, if any;</li> <li>h) significant runway surface conditions and, if appropriate, braking action;</li> <li>i) holding delay, if appropriate;</li> <li>j) transition level, if applicable;</li> <li>k) other essential operational information;</li> <li>l) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) in use are available and the information is required by aircraft operators, the indication of the runway and the section of the runway to which the information refers;</li> <li>*m) visibility and, when applicable, RVR;</li> <li>*n) present weather;</li> <li>*o) 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 when available;</li> <li>p) air temperature;</li> <li>q) dew point temperature;</li> <li>r) altimeter setting(s);</li> </ul>	<p><b>4.3.7</b></p>
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\* These elements are replaced by the term “CAVOK” when the following conditions occur simultaneously at the time of observation: a) visibility, 10 km or more, and the lowest visibility not reported; b) no cloud of operational significance; and c) no weather of significance to aviation.

<ul style="list-style-type: none"> <li>s) any available information on significant meteorological phenomena in the approach and climb-out areas including wind shear, and information on recent weather of operational significance;</li> <li>t) trend forecast, when available; and</li> <li>u) specific ATIS instructions.</li> </ul>	
<p>3.3.3 ATIS for arriving aircraft</p> <p>3.3.3.1 ATIS messages containing arrival information only shall contain the following elements of information in the order listed:</p> <ul style="list-style-type: none"> <li>a) name of aerodrome;</li> <li>b) arrival indicator;</li> <li>c) contract type, if communication is via D-ATIS;</li> <li>d) designator;</li> <li>e) time of observation, if appropriate;</li> <li>f) type of approach(es) to be expected;</li> <li>g) main landing runway(s); status of arresting system constituting a potential hazard, if any;</li> <li>h) significant runway surface conditions and, if appropriate, braking action;</li> <li>i) holding delay, if appropriate;</li> <li>j) transition level, if applicable;</li> <li>k) other essential operational information;</li> <li>l) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) in use are available and the information is required by aircraft operators, the indication of the runway and the section of the runway to which the information refers;</li> <li>*m) visibility and, when applicable, RVR;</li> <li>*n) present weather;</li> <li>*o) cloud below 1 500 m (5 000 ft) or below the highest minimum sector</li> </ul>	<p><b>4.3.8</b></p>

\* These elements are replaced by the term “CAVOK” when the following conditions occur simultaneously at the time of observation: a) visibility, 10 km or more, and the lowest visibility not reported; b) no cloud of operational significance; and c) no weather of significance to aviation.

<p>altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available;</p> <p>p) air temperature;</p> <p>q) dew point temperature;</p> <p>r) altimeter setting(s);</p> <p>s) any available information on significant meteorological phenomena in the approach area including wind shear, and information on recent weather of operational significance;</p> <p>t) trend forecast, when available; and</p> <p>u) specific ATIS instructions.</p>	
<p>3.3.4 ATIS for departing aircraft</p> <p>3.3.4.1 ATIS messages containing departure information only shall contain the following elements of information in the order listed:</p> <p>a) name of aerodrome;</p> <p>b) departure indicator;</p> <p>c) contract type, if communication is via D-ATIS;</p> <p>d) designator;</p> <p>e) time of observation, if appropriate;</p> <p>f) runway(s) to be used for take-off; status of arresting system constituting a potential hazard, if any;</p> <p>g) significant surface conditions of runway(s) to be used for take-off and, if appropriate, braking action;</p> <p>h) departure delay, if appropriate;</p> <p>i) transition level, if applicable;</p> <p>j) other essential operational information;</p> <p>k) surface wind direction and speed, including significant variations and, if surface wind sensors related specifically to the sections of runway(s) in use are available and the information is required by aircraft operators, the indication of the runway and the section of the runway to which the information refers;</p>	<p><b>4.3.9</b></p>

<ul style="list-style-type: none"> <li>*l) visibility and, when applicable, RVR;</li> <li>*m) present weather;</li> <li>*n) 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 when available;</li> <li>o) air temperature;</li> <li>p) dew point temperature;</li> <li>q) altimeter setting(s);</li> <li>r) any available information on significant meteorological phenomena in the climb-out area including wind shear;</li> <li>s) trend forecast, when available; and</li> <li>t) specific ATIS instructions.</li> </ul>	
<p style="text-align: center;"><b>Chapter 4 – Alerting Service</b></p> <p><b>4.1 Application</b></p> <p>4.1.1 Alerting service shall be provided by the air traffic services units:</p> <ul style="list-style-type: none"> <li>a) for all aircraft provided with air traffic control service;</li> <li>b) in so far as practicable, to all other aircraft having filed a flight plan or otherwise known to the air traffic services; and</li> <li>c) to any aircraft known or believed to be the subject of unlawful interference.</li> </ul> <p><b>4.2 Information to aircraft operating in the vicinity of an aircraft in a state of emergency</b></p> <p>4.2.1 When it has been established by an air traffic services unit that an aircraft is in a state of emergency, other aircraft known to be in the vicinity of the aircraft involved shall, except as provided in 4.2.2, be informed of the nature of the emergency as soon as practicable.</p> <p>4.2.2 When an air traffic services unit knows or believes that an aircraft is being subjected to unlawful interference, no reference shall be made in ATS air-ground communications to the nature of the emergency unless it has first been referred to in communications from the aircraft involved and it is certain that such reference will not</p>	<p style="text-align: center;"><b>Chapter 5</b></p> <p><b>5.1</b></p> <p><b>5.1.1</b></p> <p><b>5.6</b></p> <p><b>5.6.1</b></p> <p><b>5.6.2</b></p>

\* These elements are replaced by the term “CAVOK” when the following conditions occur simultaneously at the time of observation: a) visibility, 10 km or more, and the lowest visibility not reported; b) no cloud of operational significance; and c) no weather of significance to aviation.

aggravate the situation.	
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DRAFT SERA Part B: Requirements regarding services in air navigation	ICAO Annex 3 reference
<p><b>Chapter 5 – Services Related to Meteorology – Aircraft Observations and Reports</b></p> <p><b>[Editorial note: All references in Chapter 5 are to ICAO Annex 3 – <i>Meteorological Service for International Air Navigation</i>]</b></p> <p><b>5.1 Types of aircraft observations</b></p> <p>5.1.1 The following aircraft observations shall be made:</p> <ul style="list-style-type: none"> <li>a) routine aircraft observations <b>by air-ground data link</b> during en-route and climb-out phases of the flight; and</li> <li>b) special and other non-routine aircraft observations during any phase of the flight.</li> </ul> <p><b>5.2 Routine aircraft observations <b>by air-ground data link</b></b></p> <p>5.2.1 Automated routine aircraft observations shall be made by all aircraft and shall include:</p> <ul style="list-style-type: none"> <li>a) wind direction and wind speed;</li> <li>b) wind quality flag;</li> <li>c) air temperature;</li> <li>d) turbulence (if available); and</li> <li>e) humidity (if available).</li> </ul> <p>5.2.2 Routine aircraft observations by air-ground data link <del>should</del> <b>shall</b> be made at least every 15 minutes during the en-route phase and every 30 seconds during the climb-out phase for the first 10 minutes of the flight.</p> <p>5.2.3 For helicopter operations to and from aerodromes on offshore structures, routine observations <b>by air-ground data link</b> <del>should</del> <b>shall</b> be made from helicopters at points and times as agreed between the <del>meteorological authorities</del> <b>competent authority</b> and the helicopter operators concerned.</p> <p>5.2.4 Aircraft not equipped with air-ground data link shall be exempted from making routine aircraft observations.</p> <p><b>5.3 Special aircraft observations</b></p> <p>5.3.1 Special observations shall be made by all aircraft whenever the following conditions are encountered or observed:</p> <ul style="list-style-type: none"> <li>a) moderate or severe turbulence; or</li> <li>b) moderate or severe icing; or</li> <li>c) severe mountain wave; or</li> </ul>	<p>5.2</p> <p><b>Appendix 4, 1.1.1</b></p> <p><b>5.3.1 RP</b></p> <p><b>5.3.2 RP</b></p> <p><b>5.4</b></p> <p><b>5.5</b></p>

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<p>d) thunderstorms, without hail, that are obscured, embedded, widespread or in squall lines; or</p> <p>e) thunderstorms, with hail, that are obscured, embedded, widespread or in squall lines; or</p> <p>f) heavy duststorm or heavy sandstorm; or</p> <p>g) volcanic ash cloud; or</p> <p>h) pre-eruption volcanic activity or a volcanic eruption.</p>	
<p>5.3.2 In addition, competent authorities may determine other conditions which shall be reported by all aircraft when encountered or observed.</p>	
<p><b>5.4 Other non-routine aircraft observations</b></p>	5.6
<p>5.4.1 When other meteorological conditions not listed under 5.3.1, e.g. wind shear, are encountered and which, in the opinion of the pilot-in-command, may affect the safety or markedly affect the efficiency of other aircraft operations, the pilot-in-command shall advise the appropriate air traffic services unit as soon as practicable.</p>	
<p><b>5.5 Reporting of aircraft observations during flight</b></p>	5.7
<p>5.5.1 Aircraft observations shall be reported by air-ground data link. Where air-ground data link is not available or appropriate, special and other non-routine aircraft observations during flight shall be reported by voice communications.</p>	5.7.1
<p>5.5.2 Aircraft observations shall be reported during flight at the time the observation is made or as soon thereafter as is practicable.</p>	5.7.2
<p>5.5.3 Aircraft observations shall be reported as air-reports and shall comply with the technical specifications in Appendix 2.</p>	5.7.3
<p><b>5.6 Exchange of air-reports</b></p>	
<p>5.6.1 ATS units shall transmit without delay routine air-reports by air-ground data link to the associated meteorological watch office and World Area Forecast Centre (WAFc).</p>	5.8
<p>5.6.2 ATS units should shall transmit, as soon as practicable, special and non-routine air-reports to other aircraft concerned, to the associated meteorological watch office, and to other ATS units concerned. Transmissions to aircraft should be continued for a period to be determined by the competent authorities agreement between the meteorological and air traffic services authorities concerned.</p>	Annex 11, 4.2.3RP

**APPENDIX 1 OF PART B - ATS AIRSPACE CLASSES — SERVICES PROVIDED AND FLIGHT REQUIREMENTS**

(Chapter 1, 1.2.1 refers)

Class	Type of flight	Separation provided	Service provided	Speed limitation*	Radio communication capability requirement	Continuous two-way air-ground voice communication required	Subject to an ATC clearance
<b>A</b>	IFR only	All aircraft	Air traffic control service	Not applicable	Continuous two-way Yes	Yes	Yes
<b>B</b>	IFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way Yes	Yes	Yes
	VFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way Yes	Yes	Yes
<b>C</b>	IFR	IFR from IFR IFR from VFR	Air traffic control service	Not applicable	Continuous two-way Yes	Yes	Yes
	VFR	VFR from IFR	1) Air traffic control service for separation from IFR; 2) VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3050 m (10000 ft) AMSL	Continuous two-way Yes	Yes	Yes
<b>D</b>	IFR	IFR from IFR	Air traffic control service, traffic information about VFR flights (and traffic avoidance advice on request)	250 kt IAS below 3050 m (10000 ft) AMSL	Continuous two-way Yes	Yes	Yes
	VFR	Nil	IFR/VFR and VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3050 m (10000 ft) AMSL	Continuous two-way Yes	Yes	Yes
<b>E</b>	IFR	IFR from IFR	Air traffic control service and, as far as practical, traffic information about VFR flights	250 kt IAS below 3050 m (10000 ft) AMSL	Continuous two-way Yes	Yes	Yes
	VFR	Nil	Traffic information as far as practical	250 kt IAS below 3050 m (10000 ft) AMSL	No**	No**	No
<b>F</b>	IFR	IFR from IFR as far as practical	Air traffic advisory service; flight information service	250 kt IAS below 3050 m (10000 ft) AMSL	Continuous two-way Yes***	No***	No
	VFR	Nil	Flight information service	250 kt IAS below 3050 m (10000 ft) AMSL	No**	No**	No
<b>G</b>	IFR	Nil	Flight information service	250 kt IAS below 3050 m (10000 ft) AMSL	Continuous two-way Yes**	No**	No
	VFR	Nil	Flight information service	250 kt IAS below 3050 m (10000 ft) AMSL	No**	No**	No

\* When the height of the transition altitude is lower than 3050 m (10000 ft) AMSL, FL 100 should be used in lieu of 10000 ft.

\*\* Pilots shall maintain continuous air-ground voice communication watch and establish two-way communication, as necessary, on the appropriate communication channel in RMZ

<i>Class</i>	<i>Type of flight</i>	<i>Separation provided</i>	<i>Service provided</i>	<i>Speed limitation*</i>	<i>Radio communication capability requirement</i>	<i>Continuous two-way air-ground voice communication required</i>	<i>Subject to an ATC clearance</i>
<p>*** Air-ground voice communications mandatory for flights participating in the advisory service. Pilots shall maintain continuous air-ground voice communication watch and establish two-way communication, as necessary, on the appropriate communication channel in RMZ.</p>							

## APPENDIX 24. TECHNICAL SPECIFICATIONS RELATED TO AIRCRAFT OBSERVATIONS AND REPORTS

[Editorial note: Appendix 2 is based on Appendix 4 to ICAO Annex 3.]

### 1. CONTENTS OF AIR-REPORTS

#### 1.1 Routine air-reports by air-ground data link

1.1.1 When ~~air-ground data link is used~~ and automatic dependent surveillance (ADS) or SSR Mode S is being applied, the elements contained in routine air-reports shall be:

Message type designator  
Aircraft identification

Data block 1  
Latitude  
Longitude  
Level  
Time

Data block 2  
Wind direction  
Wind speed  
Wind quality flag  
Air temperature  
Turbulence (if available)  
Humidity (if available)

1.1.2 When ~~air-ground data link is used while~~ ADS and SSR Mode S are not being applied, the elements contained in routine reports shall be:

Message type designator

Section 1 (Position information)  
Aircraft identification  
Position or latitude and longitude  
Time  
Flight level or altitude  
Next position and time over  
Ensuing significant point

Section 2 (Operational information)  
Estimated time of arrival  
Endurance

Section 3 (Meteorological information)  
Air temperature  
Wind direction  
Wind speed  
Turbulence

Aircraft icing  
Humidity (if available)

## 1.2 Special air-reports by air-ground data link

**1.2.1** When air-ground data link is used, the elements contained in special air-reports shall be:

Message type designator  
Aircraft identification

Data block 1  
Latitude  
Longitude  
Level  
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 a special air-report (one condition to be selected from the list presented in Table AP 24-1).

## 1.3 Special air-reports by voice communications

**1.3.1** When voice communications are used, the elements contained in special air-reports shall be:

Message type designator

Section 1 (Position information)  
Aircraft identification  
Position or latitude and longitude  
Time  
Level or range of levels

Section 3 (Meteorological information)  
Condition prompting the issuance of a special air-report, to be selected from the list presented in Table AP 24-1.

## 2. CRITERIA FOR REPORTING

### 2.1 General

**2.1.1** When air-ground data link is used, the wind direction, wind speed, wind quality flag, air temperature, turbulence and humidity included in air-reports shall be reported in accordance with the following criteria.

## 2.2 Wind direction

**2.2.1** The wind direction shall be reported in terms of degrees true, rounded to the nearest whole degree.

## 2.3 Wind speed

**2.3.1** The wind speed shall be reported in metres per second or knots, rounded to the nearest 1 m/s (1 knot). The units of measurement used for the wind speed shall be indicated.

## 2.4 Wind quality flag

**2.4.1** The wind quality flag shall be reported as 0 when the roll angle is less than 5 degrees and as 1 when the roll angle is 5 degrees or more.

## 2.5 Air temperature

**2.5.1** The air temperature shall be reported to the nearest tenth of a degree Celsius.

## 2.6 Turbulence

**2.6.1** The turbulence shall be reported in terms of the cube root of the eddy dissipation rate (EDR).

### 2.6.2+ Routine air-reports

**2.6.2.1** The turbulence shall be reported during the en-route phase of the flight and shall refer to the 15-minute period immediately preceding the observation. Both the average and peak value of turbulence, together with the time of occurrence of the peak value to the nearest minute, shall be observed. The average and peak values shall be reported in terms of the cube root of EDR. The time of occurrence of the peak value shall be reported as indicated in Table AP 24-2. The turbulence shall be reported during the climb-out phase for the first 10 minutes of the flight and shall refer to the 30-second period immediately preceding the observation. The peak value of turbulence shall be observed.

### 2.6.3~~2~~ Interpretation of the turbulence report

**2.6.3.1** Turbulence shall be considered:

- a) severe when the peak value of the cube root of EDR exceeds 0.7;
- b) moderate when the peak value of the cube root of EDR is above 0.4 and below or equal to 0.7;
- c) light when the peak value of the cube root of EDR is above 0.1 and below or equal to 0.4; and
- d) nil when the peak value of the cube root of EDR is below or equal to 0.1.

### 2.6.4~~3~~ Special air-reports

**2.6.4.1** Special air-reports on turbulence shall be made during any phase of the flight whenever the peak value of the cube root of EDR exceeds 0.4. The special air-report on turbulence shall be made with reference to

the 1-minute period immediately preceding the observation. Both the average and peak value of turbulence shall be observed. The average and peak values shall be reported in terms of the cube root of EDR. Special air-reports shall be issued every minute until such time as the peak values of the cube root of EDR fall below 0.4.

## 2.7 Humidity

**2.7.1** The humidity shall be reported as the relative humidity, rounded to the nearest whole per cent.

## 34. SPECIFIC PROVISIONS RELATED TO REPORTING WIND SHEAR AND VOLCANIC ASH

### 34.1 Reporting of wind shear

**34.1.1 Recommendation.**— When reporting aircraft observations of wind shear encountered during the climb-out and approach phases of flight, the aircraft type **shall** ~~should~~ be included.

**34.1.2 Recommendation.**— Where wind shear conditions in the climb-out or approach phases of flight were reported or forecast but not encountered, the pilot-in-command **shall** ~~should~~ advise the appropriate air traffic services unit as soon as practicable unless the pilot-in-command is aware that the appropriate air traffic services unit has already been so advised by a preceding aircraft.

### 34.2 Post-flight reporting of volcanic activity

**34.2.1** On arrival of a flight at an aerodrome, the completed report of volcanic activity shall be delivered by the **aircraft** operator or a flight crew member, without delay, to the aerodrome meteorological office, or if such office is not easily accessible to arriving flight crew members, the completed form shall be dealt with in accordance with local arrangements made by the meteorological authority and the **aircraft** operator.

**34.2.2** The completed report of volcanic activity received by a meteorological office shall be transmitted without delay to the meteorological watch office responsible for the provision of meteorological watch for the flight information region in which the volcanic activity was observed.

**Table AP 24-1. Template for the special air-report (downlink)**

Key: M = inclusion mandatory, part of every message;  
C = inclusion conditional; included whenever available.

<i>Element as specified in Chapter 5</i>	<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
Message type designator (M)	Type of air-report (M)	ARS	ARS
Aircraft identification (M)	Aircraft radiotelephony call sign (M)	nnnnnn	VA812
<b>DATA BLOCK 1</b>			
Latitude (M)	Latitude in degrees and minutes (M)	Nnnnn or Snnnn	S4506
Longitude (M)	Longitude in degrees and minutes (M)	Wnnnnn or Ennnnn	E01056
Level (M)	Flight level (M)	FLnnn or FLnnn to FLnnn	FL330 FL280 to FL310
Time (M)	Time of occurrence in	OBS AT nnnnZ	OBS AT 1216Z



Air temperature: °C	-80 – +60	0.1
Turbulence: routine air-report: m2/3 s <sup>-1</sup>	0 – 2	0.01
(time of occurrence)*	0 – 15	1
Turbulence: special air-report: m2/3 s <sup>-1</sup>	0 – 2	0.01
Humidity: %	0 – 100	1
* Non-dimensional		