

## Chapter 15

### **PROCEDURES RELATED TO EMERGENCIES, COMMUNICATION FAILURE AND CONTINGENCIES**

#### **15.1 EMERGENCY PROCEDURES**

##### **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.

*Note 1.— Additional radar procedures to be applied in relation to emergencies and contingencies are as described below:*

- a) *In the event of an aircraft in, or appearing to be in, any form of emergency, every assistance shall be provided by the radar controller, and the procedures prescribed herein may be varied according to the situation.*
- b) *The progress of an aircraft in emergency shall be monitored and (whenever possible) plotted on the radar display until the aircraft passes out of radar coverage, and position information shall be provided to all air traffic services units which may be able to give assistance to the aircraft. Radar transfer to adjacent radar sectors shall also be effected when appropriate.*

*Note 2.— If the pilot of an aircraft encountering a state of emergency has previously been directed by ATC to operate the transponder on a specific code, that code will normally be maintained unless, in special circumstances, the pilot has decided or has been advised otherwise. Where ATC has not requested a code to be set, the pilot will set the transponder to Mode A Code 7700.*

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 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.

*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.*

### 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 maximum consideration, assistance and priority over other aircraft as may be necessitated by the circumstances.

### 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.

*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.*

15.1.3.2 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, especially the safe landing of the aircraft.

15.1.3.2.1 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 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;

*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.*

- d) notify:
  - 1) the operator or its designated representative;
  - 2) the appropriate rescue coordination centre in accordance with appropriate alerting procedures;
  - 3) the designated security authority;
- e) relay appropriate messages, relating to the circumstances associated with the unlawful interference, between the aircraft and designated authorities.

*Note.— Follow procedures enumerated in DARA Circular 9 of 1978 and Contingency Plan to deal with Unlawful Interference.*

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.

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.

15.1.3.6 The aircraft shall be handled in the most expeditious manner whilst ensuring, to the extent possible, the safety of other aircraft and that personnel and ground installations are not put at risk.

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.

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.

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.

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.

#### 15.1.4 Emergency descent

15.1.4.1 Upon receipt of advice that an aircraft is making an emergency descent through other traffic, all possible action shall be taken immediately to safeguard all aircraft concerned. When deemed necessary, air traffic control units shall immediately broadcast by means of the appropriate radio aids, or if not possible, request the appropriate communications stations immediately to broadcast an emergency message.

15.1.4.2 Action by the pilot-in-command  
It is expected that aircraft receiving such a broadcast will clear the specified areas and stand by on the appropriate radio frequency for further clearances from the air traffic control unit.

15.1.4.3 Subsequent action by the air traffic control unit

Immediately after such an emergency broadcast has been made the ACC, the

approach control unit, or the aerodrome control tower concerned shall forward further clearances to all aircraft involved as to additional procedures to be followed during and subsequent to the emergency descent. The ATS unit concerned shall additionally inform any other ATS units and control sectors which may be affected.

## 15.2 AIR-GROUND COMMUNICATIONS FAILURE

*Note 1.— Radar procedures for the aircraft experiencing air-ground communication failure shall be followed.*

*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.*

15.2.1 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.

15.2.2 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 radar or to transmit, if possible, a specified signal in order to indicate acknowledgement.

15.2.3 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:
  - 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

- b) if in instrument meteorological conditions or when conditions are such that it does not appear feasible to complete the flight in accordance with a):

- 1) 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;

- 2) proceed according to the current flight plan route to the appropriate designated navigation aid serving the destination aerodrome and, when required to ensure compliance with 3) below, hold over this aid until commencement of descent;

- 3) commence descent from the navigation aid specified in 2) 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;

- 4) complete a normal instrument approach procedure as specified for the designated navigation aid; and

- 5) land, if possible, within 30 minutes after the estimated time of arrival specified in b) or the last acknowledged expected

approach time, whichever is later.

*Note 1.— As evidenced by the meteorological conditions prescribed therein, 15.2.3 a) relates to all controlled flights, whereas 15.2.3 b) relates only to IFR flights.*

15.2.4 Action taken to ensure suitable separation shall cease to be based on the assumption stated in 15.2.3 when:

- a) it is determined that the aircraft is following a procedure differing from that in 15.2.3; or
- b) through the use of electronic or other aids, air traffic control units determine that action differing from that required by 15.2.3 may be taken without impairing safety; or
- c) positive information is received that the aircraft has landed.

15.2.5 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) weather conditions favorable to a cloud-breaking procedure in areas where congested traffic may be avoided; and
- b) weather conditions at suitable aerodromes.

15.2.6 Pertinent information shall be given to other aircraft in the vicinity of the presumed position of the aircraft experiencing the failure.

15.2.7 As soon as it is known that an aircraft which is operating in its area of responsibility is experiencing an apparent radio communication failure, an air traffic

services unit shall forward information concerning the radio communication 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.

15.2.8 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, or when weather conditions at the aerodrome of intended landing are such that a diversion to an alternate is considered likely.

15.2.9 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.

15.2.10 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 3 ASSISTANCE TO VFR FLIGHTS**

#### **15.3.1 Strayed VFR flights and VFR flights encountering adverse weather conditions**

*Note.— A strayed aircraft is an aircraft which has deviated significantly from its intended track or which reports that it is lost.*

15.3.1.1 A VFR flight reporting that it is uncertain of its position or lost, or encountering adverse weather 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) departure and destination aerodromes;
- h) number of persons on board;
- i) endurance.

15.3.1.2 If communications with the aircraft are weak or distorted, it should be suggested that the aircraft climb to a higher level, provided weather conditions and other circumstances permit.

15.3.1.3 Navigation assistance to help the pilot determine the aircraft position may be provided by use of radar, 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.

*Note.— The possibility of a VFR flight becoming strayed as a result of encountering adverse weather conditions must be recognized.*

15.3.1.4 The pilot should be provided with reports and information on suitable aerodromes in the vicinity where visual meteorological conditions exist.

15.3.1.5 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.

15.3.1.6 Radar assistance to a VFR flight should only be provided upon the request or concurrence of the pilot. The

type of radar service to be provided should be agreed with the pilot.

15.3.1.7 When providing radar assistance in adverse weather 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.

15.3.1.8 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;
- 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.

## 15.4 OTHER IN-FLIGHT CONTINGENCIES

### 15.4.1 Strayed or unidentified aircraft

*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.

*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.*

15.4.1.1 As soon as an air traffic services unit becomes aware of a strayed aircraft, it shall take all necessary steps as outlined in 15.4.1.1.1 and 15.4.1.1.2 to assist the aircraft and to safeguard its flight.

*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.*

15.4.1.1.1 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.

*Note.—The requirements in d) and e) apply also to ATS units informed in accordance with c).*

15.4.1.1.2 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.

15.4.1.2 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:

- 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.

15.4.1.2.1 The air traffic services unit shall, as necessary, inform the appropriate military unit as soon as the identity of the aircraft has been established.

## 15.4.2 Interception of civil aircraft

15.4.2.1 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 on any available frequency, including the emergency frequency 121.5 MHz, unless 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.

15.4.2.2 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 15.4.2.1;
- b) relay messages between the intercepted aircraft and the appropriate ATS unit, the intercept control unit or the intercepting aircraft.

### 15.4.3 Fuel dumping

#### 15.4.3.1 General

15.4.3.1.1 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.

15.4.3.1.2 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 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 6 000 ft; and
- c) the duration of the fuel dumping.

#### 15.4.3.2 Separation

Other known traffic should be separated from the aircraft dumping fuel by:

- a) at least 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 50 NM by;
  - 1) at least 1 000 ft if above the aircraft dumping fuel; and
  - 2) at least 3 000 ft if below the aircraft dumping fuel.

*Note.*— The horizontal boundaries of the area within which other traffic requires appropriate vertical separation extend for 10 NM either side of the track flown by the aircraft which is dumping fuel, from 10 NM ahead, to 50 NM or 15 minutes along track behind it (including turns).

#### 15.4.3.3 Communications

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.

#### 15.4.3.4 Information to other ATS units and non-controlled traffic

15.4.3.4.1 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.

##### *Phraseology:*

ATTENTION ALL AIRCRAFT, FUEL DUMPING IN PROGRESS OVER (location) AT (level) BY (type of aircraft) (flight direction)

15.4.3.4.2 Upon completion of the fuel dumping, adjacent ATC units and control sectors should be advised that normal operations can be resumed. A terminating message should be broadcast on appropriate frequencies when the fuel dumping operation is completed.

##### *Phraseology:*

ATTENTION ALL AIRCRAFT, FUEL DUMPING OVER (location) TERMINATED.

## 15.5 ATC CONTINGENCIES

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.

### 15.5.1 Radio communications contingencies

### 15.5.1.1 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.

### 15.5.1.2 Ground radio failure

15.5.1.2.1 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 radio communications 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 radar or non-radar separation between and maintaining control of such aircraft; and
- e) instruct adjacent control positions or ATC units to hold or reroute 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.

### 15.5.1.3 Blocked Frequency

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.

### 15.5.1.4 Unauthorized use of ATC frequency

15.5.1.4.1 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.

15.5.1.4.2 Flights 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.

15.5.1.4.3 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.

## 15.6 OTHER ATC CONTINGENCY PROCEDURES

### 15.6.1 Emergency separation

15.6.1.1 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. 500 ft between aircraft in airspace where a vertical separation minimum of 1 000 ft is applied, and 1 000 ft between aircraft in airspace where a 2 000 ft vertical separation minimum is applied.

15.6.1.2 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.

### 15.6.2 Short-term conflict alert (STCA) procedures

15.6.2.1 Local instructions concerning use of the STCA function shall be contained in MATS 2 and specify, *inter alia*:

- a) the types of flight which are eligible for generation of STCA;
- 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) the parameters for generation of alerts as well as alert warning time;
- e) conditions under which the STCA function may be inhibited for individual radar tracks; and
- f) procedures applicable in respect of flights for which STCA has been inhibited.

15.6.2.2 In the event an STCA is generated in respect of controlled flights, the controller shall without delay take action to ensure that the applicable separation minimum will not be infringed.

15.6.2.3 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.

15.6.2.4 The Circumstances pertaining to generation of **each** STCA should be analysed by ATS Incharge 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.

### 15.6.3 Procedures in regard to aircraft equipped with airborne collision avoidance systems (ACAS)

15.6.3.1 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.

15.6.3.2 When a pilot reports a manoeuvre induced by an ACAS resolution advisory (RA), the controller shall not attempt to modify the aircraft flight path until the pilot reports returning to the terms of the current air traffic control instruction or clearance but shall provide traffic information as appropriate.

15.6.3.3 Once an aircraft departs from its clearance in compliance with a resolution advisory, 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 resolution advisory. 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 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.

15.6.3.4 ACAS can have a significant effect on ATC. Therefore, the performance of ACAS in the ATC environment is being monitored by AAI CHQ.

15.6.3.5 To avoid false RA, flight crew of a climbing or descending aircraft must

reduce the rate of climb or descent as applicable to 1500 ft per minute or less when the aircraft is 200 ft to level off altitude.

#### 15.6.3.6 Procedure for reporting RA's:

- a) Reports made by aircraft on RA shall be entered in the log book and WSO and ATS Incharge of the station shall be informed.
- b) Reports of RA shall be reported by signal to M(O) / ED (ATM) / GM (ATM).
- c) Local Incharge of ATS units shall investigate the incident and take further action in consultation with GM(ATM).
- d) A record of all alerts received shall be kept in a register or in a computerized data bank for statistical purposes.

#### 15.6.4 **Minimum safe altitude warning (MSAW) procedures**

15.6.4.1 Local instructions concerning use of the MSAW function shall be contained in MATS 2 and 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 radar tracks as well as procedures applicable in respect of flights for which MSAW has been inhibited.

15.6.4.2 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 provided with radar vectors, the aircraft shall be instructed to climb immediately to the applicable safe level and, if necessary to avoid terrain, be given a new radar 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.

15.6.4.3 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.

### **15.6.5 Ground Proximity Warning System**

A controller is not to dissuade a pilot from climbing his aircraft upon receipt of a ground proximity warning. The message should be acknowledged and if appropriate QNH setting should be passed for confirmation.

### **15.6.6 Change of radiotelephony call sign for aircraft**

15.6.6.1 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.

15.6.5.1.1 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.

15.6.5.2 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.

15.6.5.3 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.

15.6.5.4 The appropriate ATC unit shall advise the aircraft concerned when it is to revert to the call sign indicated by the flight-plan.

