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Ethiopian Civil Aviation Authority

Document No.

ECAA-ANR-AC-034

Document title

Guidance for air craft emergency handling

Issue No.

1

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1. PURPOSE

1.1 This guidance material provides instruction on the development and review of the procedure for air craft emergency (Air-Ground Communications Failure, Strayed or unidentified aircraft, Interception of civil aircraft, Fuel dumping, Emergency separation, Loss of Communications (Radio Failure), Procedures for Bomb Threat and Unlawful Interference) handling by Air Traffic Control Services.

2. REFERENCE

2.1 ECARAS Part 14 14.2.24

2.2 ICAO PANS ATM DOC 4444 Chapter 15

3. GUIDANCE

3.1 General Information

- An aircraft known or believed to be in a state of emergency, including being subjected to unlawful interference, shall be given priority over other aircraft.*
- The circumstances of each aircraft emergency can vary to such an extent that detailed instructions cannot be given for every situation.*
- The guidance outlined in this section is intended as a general guide.*
- Controllers must use their own judgment when handling a particular emergency.*
- Controllers must always be alert to the possibility of an aircraft emergency.*
- Controllers shall offer as much assistance as possible to any aircraft which is considered to be in an emergency situation.*
- Pilots may select the following SSR transponder codes to indicate an emergency situation:-*
 - Code 7700 - Aircraft Emergency*
 - Code 7600 - Radio Failure*
 - Code 7500 - Hijack or other act of violence*
- In the event of an aircraft in, or appearing to be in, any form of emergency, every assistance shall be provided by the controller, and the procedures prescribed herein may be varied according to the situation.*
- When an emergency report is received, the controller must acknowledge receipt of the information by the most appropriate means of communication.*

3.2 There are two classes of emergency message:

- Distress: A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance; transmitted as MAYDAY, MAYDAY, MAYDAY; or*



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- *Urgency: A condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but which does not require immediate assistance; transmitted as PAN-PAN, PAN-PAN, PAN-PAN.*
 - *distress messages and distress traffic, including messages relating to a distress phase (SS)*
 - *urgency messages, including messages relating to an alert phase or to an uncertainty phase (DD);*
 - *if ATS unit is aware that an aircraft in its area is experiencing radio communication Failure an RCF message shall be transmitted to all subsequent ATS units along the route of flight and aerodrome control tower at the destination aerodrome,*
- 3.3 *ATSP must devolve procedure for each emergency type which shows duty of controller and emergency report form.*

4. Specific information

4.1 Air-Ground Communications Failure

- *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.*
- *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*
- *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.*
- *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.*
- *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*



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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.

4.2 *Strayed or unidentified aircraft*

- *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.*
- *An aircraft may be considered, at the same time, as a “strayed aircraft” by one unit and as an “unidentified aircraft” by another unit.*
- *As soon as an air traffic services unit becomes aware of a strayed aircraft, it shall take all necessary steps to assist the aircraft and to safeguard its flight.*
- *When the aircraft’s position is established, the air traffic services unit shall*
 - *advise the aircraft of its position*
 - *corrective action to be taken*
 - *provide, as necessary, other ATS units and*
 - *appropriate military units information concerning the strayed aircraft*

4.3 *Interception of civil aircraft*

- *As soon as an air traffic services unit learns that an aircraft is being intercepted in its area of responsibility, attempt to establish two-way communication with the intercepted aircraft via any means available;*
- *As soon as an air traffic services unit learns that an aircraft is being intercepted outside its area of inform the ATS unit serving the airspace in which the interception is taking place responsibility,*

4.4 *Fuel dumping*

- *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*
- *When an aircraft operating within controlled airspace needs to dump fuel, the flight crew shall advise ATC.*
- *Other known traffic should be separated from the aircraft dumping fuel*
- *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*
- *Upon completion of the fuel dumping, adjacent ATC units and control sectors should be advised*



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4.5 Emergency separation


- *If, during an emergency situation, it is not possible to ensure that the applicable horizontal separation can be maintained, emergency separation of half the applicable vertical separation minimum may be used, i.e. 150 m (500 ft) between aircraft in airspace where a vertical separation minimum of 300 m (1 000 ft) is applied, and 300 m (1 000 ft) between aircraft in airspace where a 600 m (2 000 ft) vertical separation minimum is applied.*
- *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.*

4.6 Procedures For Bomb Threat

- *The ATSU in communication with the aircraft shall ascertain the intentions of the flight crew and report those intentions to other ATSUs or sectors which may be concerned with the flight.*
- *The aircraft shall be handled in the most expeditious manner to the extent possible, the safety of other aircraft and that personnel and ground installations are not put at risk*
- *Aircraft in flight shall be given a re-clearance to a requested new destination without delay.*
- *Any request to climb or descend for the purpose of equalizing or reducing the differential between the outside air pressure and cabin air pressure shall be approved as soon as possible.*

4.7 Unlawful Interference

- *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.*

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4.8 Loss of Communications (Radio Failure)

— General Rules

- *An aircraft operated as a controlled flight shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and establish two-way communication as necessary with, the appropriate air traffic control unit, except as may be prescribed by the appropriate ATS authority in respect of aircraft forming part of aerodrome traffic at a controlled aerodrome.*
- *Radio communication is considered to be failed if during two minutes that the pilot or the ATC unit doesn't answer the repeated calls through all available communication channels.*
- *The transponder is set to be Mode A code 7600 as soon as the pilot has detected communication failure.*
- *The pilot shall use all available facilities to re-establish communication with ATC unit directly or by means of the other aircraft. If necessary, the emergency frequency 121.5 MHz may be used.*
- *In any case of radio communication failure, the pilot shall continue listening on the appropriate radio frequency and transmitting the position reports, actions and flight conditions. The pilot shall comply with one of the following procedures.*
- *The requirement for an aircraft to maintain an air-ground voice communication the aircraft shall comply with the communication failure procedures, the aircraft shall attempt to establish communications with the appropriate air traffic control unit using all other available means. In addition, the aircraft, when forming part of the aerodrome traffic at a controlled aerodrome, shall keep a watch for such instructions as may be issued by visual signals.*
- *Radio failure procedures shall be implement when communication cannot be maintained with an aircraft on any flight which is being provided with an air traffic control or advisory service;*
- *Communication cannot be established with an aircraft operating, or intending to operate, on an IFR flight plan within controlled or advisory airspace.*

4.9 Aircraft Bomb Threat

- *When aircraft Bomb 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:*
 - *if in direct communication with the aircraft, advise the flight crew without delay*



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- *if not in direct communication with the aircraft, advise the flight crew by the most expeditious means*
- *The aircraft shall be handled in the most expeditious manner*
- *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.*
- *An aircraft on the ground should be advised to remain as far away from other aircraft*
 - *The aircraft should be instructed to taxi to a designated or isolated parking area*
 - *The flight crew disembarks passengers and crew immediately, other aircraft, vehicles and personnel should be kept at a safe distance from the threatened aircraft.*
- *ATS units shall not provide any advice or suggestions concerning action to be taken by the flight crew in relation to an explosive device.*