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|  | <p style="text-align: center;">TANZANIA CIVIL AVIATION AUTHORITY</p> <p style="text-align: center;">DIRECTORATE OF SAFETY REGULATIONS</p> <p style="text-align: center;">AIR NAVIGATION INSPECTORATE</p> | <p>Revision: 4</p> <p style="text-align: center;">Advisory Circular</p> |
| <p>Document No.: TCAA/QSP/SR/AC/ANI-03</p> | <p>Title: Air Traffic Services Incident Reporting and Investigation</p> | <p>Page 1 of 7</p> |

1.0 PURPOSE

- 1.1. In any Air Navigation Services (ANS) system, Air Traffic Services (ATS) incidents are inevitable. It is however necessary to ensure that the complete system maintains an acceptable level of safety.
- 1.2. Through ATS incidents reporting, investigation and analysis, deficiencies within the ANS system can be identified and appropriate remedial actions taken to prevent recurrence and enhance the organizational integrity.
- 1.3. The purpose of this circular is to provide guidance to organizations and individuals involved and standardize the procedure for reporting and investigation of ATS incidents.
- 1.4. It is necessary to note that the sole objective of ATS incidents reporting, and investigation is to prevent accidents and incidents and not to apportion blame or liability. ATS incidents should be reported without fear of reprisal.
- 1.5. Air traffic incidents investigation shall include the gathering and analysis of information, the drawing of conclusions, determination of causes and, when appropriate, making of safety recommendations.

2.0 REFERENCES

- 2.1. Civil Aviation (Safety Management) Regulations, 2018 as amended
- 2.2. Civil Aviation (Aircraft Accident and Incident Investigation) Regulations, 2017 as amended
- 2.3. Civil Aviation (Air Traffic Services) Regulations, 2017 as amended
- 2.4. ATS Planning Manual (Doc 9426)
- 2.5. Safety Management Manual (Doc 9859)
- 2.6. Accident/Incident Reporting Manual (Doc 9156).
- 2.7. Manual of Aircraft Accident and Incident Investigation, Organization and Planning (Doc 9756)

3.0 GUIDANCE

3.1. INTERPRETATION OF TERMS

- 3.1.1. **Incident:** An incident is an occurrence other than an accident associated with the operation of an aircraft which affect or could affect the safety of operation. It relates to a serious occurrence involving air traffic such as a near collision or a serious difficulty caused by faulty procedures, or lack of compliance with applicable procedures or the failure of ground facilities resulting in a hazard to aircraft.

Air traffic incidents are identified and designated in reports as:

- a) Air traffic incident (INCIDENT),
- b) Aircraft proximity (AIRPROX),
- c) Serious difficulty resulting in a hazard to aircraft caused by faulty procedures or non-compliance with procedures (PROCEDURE), or

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d) Serious difficulty resulting in a hazard to aircraft caused by failure of ground facilities (FACILITY).

Others are obstructions on runways and runway incursions and activations of aircraft ground proximity warning systems.

Air operators and pilots are, in addition required to report incidents involving activations of aircraft ground proximity warning systems so that their locations can be identified and altitude, routing and/or aircraft operating procedures altered to prevent recurrences.

3.1.2. **Aircraft proximity:** Aircraft proximity is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speeds have been such that the safety of the aircraft involved may have been compromised.

Aircraft proximity is classified as follows:

- a) Risk of collision: Serious risk of collision has existed.
- b) Safety not assured: The safety of the aircraft may have been compromised.
- c) No risk of collision: No risk of collision has existed.
- d) Risk not determined: Insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

3.1.3. **AIRPROX:** AIRPROX is the abbreviation used in an air traffic incident report to designate aircraft proximity.

3.2. REPORTING PROCEDURE

3.2.1. Air traffic incidents are often reported through ATS air-ground-air communication channels. Such reports and any associated information shall be recorded by the unit concerned in the logbook and immediately brought to the notice of the ATM In-Charge. Any air traffic incident known to have occurred shall be treated like those reported by pilots.

3.2.2. The supervisor shall provide relief to the controller who was involved in ATS incident as promptly as operational and staffing conditions permit. This action will allow the controller involved the opportunity to prepare statements while the circumstances are still fresh in their minds.

3.2.3. All ATS incidents shall be reported to the Director of Safety Regulation by the fastest means of communication available using the prescribed format.

3.2.4. The air traffic incident report form shall be used when submitting or receiving air traffic incidents. The purpose of the form is to provide investigatory authorities with as complete information as possible on an air traffic incident.

The ATS incident report form is intended for use by:

- a) a pilot for filing a report on an air traffic incident after arrival or to confirm a report made by radio;
- b) an ATS unit for recording an air traffic incident report received by radio or telephone

3.2.5. Reporting by pilots

3.2.5.1. A pilot involved in an incident shall proceed as follows:

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- a) during flight, use the appropriate air/ground frequency for reporting an incident of major significance, particularly if it involves other aircraft, so as to permit the facts to be ascertained immediately;
- b) as promptly as possible after landing submit a completed air traffic incident report form:
 - i) for confirming a report of an incident made using air/ground frequency, or for making the initial report on such an incident if it had not been possible to report it by radio; and
 - ii) for reporting an incident which did not require immediate notification at the time of occurrence

3.2.5.2. An initial report made by radio should contain the following information:

- a) type of incident, e.g. near collision;
- b) radio call sign of aircraft making report;
- c) position, heading or route and true airspeed;
- d) flight level, altitude or height and aircraft attitude;
- e) flying conditions (e.g. IMC or VMC);
- f) time of incident in UTC;
- g) description of other aircraft, if relevant; and
- h) brief details of incident, including, when appropriate, sighting distance and miss distance

3.2.5.3. The air traffic incident initially reported by radio should be submitted by the pilot to the ATS reporting office of the aerodrome of first landing using the appropriate form. The pilot should complete sections 1 and 2 supplementing the details of the radio report as necessary.

Where there is no ATS reporting office, the report may be submitted to any other ATS unit or the Authority through the most expeditious means.

3.2.6. Reporting by ATS

3.2.6.1. Following an air traffic incident the ATC unit involved shall proceed as follows:

- a) designate the incident in accordance with the procedure detailed in 3.1.1 and 3.1.2;
- b) if the aircraft is bound for a destination located within the area of responsibility of the ATS unit in whose area the incident occurred, arrangements should be made with the operator to obtain the pilot's report on landing;
- c) if the aircraft is bound for a domestic destination, the ATS unit of destination should be requested to obtain the pilot's report on landing;
- d) if the aircraft is bound for an international destination, the ATS authority at destination aerodrome should be notified and given full details of the incident (by AFTN) and requested to obtain the pilot's report;
- e) if the incident involves another aircraft, similar action should be taken in regard to both parties;
- f) complete the air traffic incident form; and
- g) ensure that the Authority is notified of all reportable incidents

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Note: Notification of other interested parties including other Civil Aviation Authorities, operators, State of registry etc shall be made by the Authority.

3.2.6.2. Air Traffic Services shall ensure that all incident reports are filed as soon as possible after occurrence and preliminary investigation conducted while the subject is still fresh in minds and records available.

3.2.7. Initial action by the ATS unit involved

3.2.7.1. Immediately following an air traffic incident all documents (log books, flight progress strips, meteorological reports/forecasts etc.) and recordings (VHF/Radio transmissions, intercom, telephone communications etc.) relating to the incident shall be impounded and clearly marked for investigation purposes.

3.2.7.2. The ATM-in-Charge shall compile and submit a preliminary report of the incident to the Director of Safety Regulation through appropriate channels under confidential cover within ten working days following the occurrence of the incident. The preliminary report shall contain *prima facie facts* and shall include the following;

- a) details of aircraft involved (call sign, type, registration marking, operator and place of departure & destination);
- b) names and operating positions of ATS personnel involved;
- c) full details of the sequence of events in narrative form;
- d) statements by personnel involved;
- e) transcript of relevant voice recordings and telephone communication;
- f) copies of flight progress strips and other flight data, including graphical presentation of radar data; and
- g) copies of meteorological reports and forecast relevant to the time of the incident
- h) technical statements concerning the operating status of equipment, if applicable

The Authority shall conduct an independent investigation on all incidents.

3.2.7.3. The Air Navigation Services Provider (ANSP) shall conduct its investigation and submit a report to the Authority. The findings and recommendations in the report shall be consideration by the Authority as appropriate.

3.3. **INVESTIGATION AND DOCUMENTATION**

3.3.1. It is essential to determine the cause of an air traffic incident, with the minimum delay so that action can be taken to prevent recurrence. To give effect to the air traffic incident investigating process, an investigating team shall be established by the DSR. The team shall include ATS experts and other specialist officers from flight operations, telecommunications engineering or other fields, if required. In addition, and when necessary, the controller(s) involved in the incident should be given the opportunity to nominate as a member of the team an experienced controller of equal grade as a representative during the investigation.

3.3.2. Should the pilot, the operator or a civil aviation authority refuse to provide information necessary for the proper investigation of an air traffic incident, the investigation should precede using available information. The Authority shall take enforcement actions against defaulters.

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- 3.3.3. The proceedings of an air traffic incident investigating team, as well as papers and records used by it should be treated as confidential material. Specific *prima facie* facts required by the team should be prepared by the unit and should include, as appropriate:
- a) names and operating positions of involved ATS personnel;
 - b) full details of the sequence of events in narrative form;
 - c) names of pilots and operating companies and details of aircraft involved;
 - d) reports from controllers involved as prepared before leaving the unit on the day of the occurrence;
 - e) reports from pilots involved, if possible, as prepared at the next point of touch-down, preferably in pen script but acceptable by AFTN signal and, if necessary, through the operator's office;
 - f) the marking and impounding of relevant voice recording tapes, flight progress strips and other flight data including recorded radar data if available
- 3.3.4. The report of the ATS incident investigation committee should include a summary of the incident and the cause. The report should contain all relevant information, in chronological sequence where appropriate, and concluding with a list of findings, conclusions, causes and safety recommendations for the purpose of accident/incident prevention. Recommended corrective actions should also be included in the report. The committee should not make recommendations on personnel or disciplinary action in the event of controller error because the fundamental objective of the investigation is prevention of accidents, not to apportion blame or liability.
- 3.3.5. The following information should be submitted as appendices to the report:
- a) statements by personnel involved;
 - b) tape transcripts of relevant air-ground and telephone communications;
 - c) copies of meteorological reports or forecasts relevant to the incident;
 - d) copies of flight progress strips and other data relevant to the incident, including recorded radar data, if available;
 - e) any technical statements concerning the operating status of equipment, if applicable
- 3.3.6. On completion of the investigation, full details of the findings should be sent through appropriate channels to the pilot, and/or the operator and the civil aviation authority of the State in which the aircraft is registered.

3.4. ANALYSIS OF ATS INCIDENTS

- 3.4.1. The analysis of an incident should be considered in relation to system operation and have regard to factors such as the following:
- a) **Procedures** - Were the procedures and separation standards applied correctly for the situation?
 - b) **Data and display** - Was the displayed data correct and complete in terms of local unit instructions? Was the displayed information properly interpreted and utilized?
 - c) **Co-ordination** - Were the prescribed co-ordination procedures adequate and correct and were they correctly and fully applied?
 - d) **Communication** - Was correct phraseology used by all personnel involved? Was there any failure to communicate clearly and concisely which may have given rise to error or

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misunderstanding? Was there any failure to note and correct any incorrect read back of information? Was there any failure to obtain acknowledgement of the receipt of information?

- e) **Equipment** - Was the performance of relevant technical equipment adequate? (if any failure or malfunction of equipment caused or contributed to the incident, specialized technical advice or evidence should be sought)
- f) **Personnel performance** - Were any factors present which may have affected an individual's performance, e.g. fatigue, illness, personal problems, etc.? (While personnel errors may be established by the committee, degrees of negligence, carelessness or blame are not to be specified)
- g) **Task environment** - All aspects of the working environment should be considered which may have affected the performance of personnel, e.g. background noise, heating, ventilation, ambient light levels, etc
- h) **General operations** - Were all personnel familiar with the traffic situation and pertinent data before assuming responsibility for an operating position? Were the duties and responsibilities for the operating position(s) clearly defined? The adequacy of staffing in relation to traffic density should be considered as well as relief, and adequate rest periods. If applicable, was the level of supervision satisfactory?

- 3.4.2. Once the analysis of an ATS incident has been completed, information on the results, including conclusions and recommendations reached, should be made available to all concerned so that corrective actions, etc. may be taken and all concerned are fully aware of the final results.

3.5. **RELEASE OF INFORMATION**

- 3.5.1. In the interest of accident and incident prevention, the investigation report should be published as soon as possible. When it is considered that disclosure of records, described below might have an adverse effect on the availability of information in that investigation or any future investigation, then such records shall not be made available. Such records include:
 - a) statements from persons responsible for the safe operation of the aircraft;
 - b) communications between persons having responsibility for the safe operation of the aircraft;
 - c) medical or private information regarding persons involved;
 - d) cockpit voice recordings and transcripts from such recordings;
 - e) opinions expressed in the analysis of information, including flight recorder information
- 3.5.2. Members of the press and general public who make inquiries into occurrences should be referred to a person authorized to release information

3.6. **INCIDENT REPORTING SYSTEMS**

- 3.6.1. The Authority shall establish a mandatory incident reporting system to facilitate collection of information on actual or potential safety deficiencies and a voluntary incident reporting system to facilitate collection of information on actual or potential safety deficiencies that may not be captured by the mandatory incident reporting system.
- 3.6.2. Other safety data collection and processing systems shall also be established to collect safety information that may not be captured by the mandatory and voluntary reporting systems.

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- 3.6.3. A voluntary incident reporting system shall be non-punitive and afford protection to the sources of the information. The non-punitive culture is fundamental to voluntary reporting. ANSPs are encouraged to facilitate and promote the voluntary reporting of events that could affect aviation safety.



Tanzania Civil Aviation Authority