

# ADVISORY CIRCULAR AC 14-001

# AERODROME ACCIDENT AND MANDATORY OCCURRENCE REPORTING AND INVESTIGATION

#### **GENERAL**

Ghana Civil Aviation Authority (GCAA) Advisory Circulars from Aerodrome Safety and Standards (ASAS) contain information about standards, practices and procedures that the Authority has found to be an Acceptable Means of Compliance (AMC) with the associated Directives.

An AMC is not intended to be the only means of compliance with a Directive, and consideration will be given to other methods of compliance that may be presented to the Authority.

#### **PURPOSE**

This Advisory Circular (AC) provides information and guidance to aerodrome operators on the conduct of Aeronautical Study and risk assessment where the aerodrome is unable to meet requirements and need to identify alternative means to achieve an equivalent level of safety.

#### **REFERENCE**

The Advisory Circular relates specifically to the Aerodrome GCADs and Manual of Standards (MOS).

#### STATUS OF THIS AC

This is the first AC to be issued on this subject.

#### **FOREWARD**

This document provides guidance to Aerodrome Operators on aerodrome mandatory occurrence reporting and investigation. An Aerodrome Operator is responsible to report to the Aerodrome Safety and Standards Section of any incident and accident occurring at the aerodrome as soon as reasonably practicable.  $\Box$ 

#### **APPROVAL**

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#### 1. AERODROME MANDATORY REPORTING PROCEDURE

Reference: Doc 9859 - Appendix 3 to Chapter 4, Annex A, PART II

#### 1.1. DEFINITIONS

**Accident** – An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down in which:

- a) a person is fatally or seriously injured as a result of:
- 1. being in the aircraft, or
- 2. direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
- 3. direct exposure to jet blast.

Except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew.

- b) the aircraft sustains damage or structural failure which:
- 1. adversely affects the structural strength, performance or flight characteristics of the aircraft, and
- 2. would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories or for damage limited to propellers, wing tips, antennas, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, small dents or puncture holes in the aircraft skin, or for minor damage to main rotor blades, tail rotor blades, landing gear and those resulting from hail or bird strikes; or
- 3. the aircraft is missing or is completely inaccessible.

**Accident Investigation Board (AIB)** – This is a board setup by the Minister pursuant to the Ghana Civil Aviation Authority Act for the investigation of accident and serious incident

**Cause** - Actions, omissions, events, conditions, or a combination thereof, which led to the accident or serious incident. The identification of causes does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

**Dis-identification** - means removing from reports submitted all personal details pertaining to the reporter and technical details, which might lead to the identity of the reporter, or of third parties, being inferred from the information

**Fatal Injury** - Any injury, which results in death within 30 days of the accident.

**Incident** - An occurrence, other than an accident, associated with the operation of an aircraft,

which affects or could affect the safety of operations.

**Investigation** - A process conducted for the purpose of accident and serious incident prevention, which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and/or contributing factors and, when appropriate, the making of safety recommendations.

**Occurrence** - Means an operational interruption, defect, fault or other irregular circumstance that has or may have influenced flight safety and that has not resulted in an accident or serious incident, hereinafter referred to as 'accident or serious incident', as defined in Annex 13;

**Reportable aviation occurrences** - All aircraft accidents and serious incidents, as defined in these Directives shall be reported to the GCAA.

**Serious incident** - An incident involving circumstances indicating that there was a high probability of an accident and associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down. See ICAO Annex13 Attachment C 'List of Examples of a Serious Incident'

**Serious Injury** - An injury, which is sustained by a person in an accident and which:

- a) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; or
- b) results in a fracture of any bone, except simple fractures of fingers, toes or nose; or
- c) involves lacerations which cause severe hemorrhage, nerve, muscle, or tendon damage; or
- d) involves injury to any internal organ; or
- e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
- f) involves verified exposure to infectious substances or injurious radiation.

**Substantial Damage** - Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. The following conditions are not considered 'substantial damage':

- a) engine failure or damage, when the damage is limited to a single engine (including its cowlings or accessories).
- b) bent fairings or cowlings, dented skin, small punctured holes in the skin or fabric.
- c) damage to main and tail rotor blades or propeller blades.
- d) damage to wheels, tires, brakes, landing gear doors, flaps, panels, wing tips, antennas, probes, vanes or windscreens.
- e) damage due to hail or bird strike.

See ICAO Annex 13 Attachment G 'Guidance for the Determination of Aircraft Damage'.

#### 1.2. MANDATORY REPORTING

Pursuant to Ghana Civil Aviation (Aerodrome) Directives Part 24, it is mandatory for all operators to report aviation accidents, serious incidents, incidents and other safety related occurrences (including defects/malfunctions/service difficulties) to the Director General of the Ghana Civil Aviation Authority (GCAA).

The list of reportable occurrences (apart from accidents) and the reporting timelines are provided in Annex A to this procedure. Although Annex 13 largely consists of examples of serious incidents, other occurrences deemed reportable under this mandatory reporting system has been included.

The reporting of mandatory occurrences is done using the Mandatory Report Form GCAA/SRD/ASAS-04. The approved/certificated organization's authorized signatory signs all Mandatory Reports where applicable. An occurrence notification can also be done through verbal/telephone communications.

In the case of accidents and serious incidents, immediate coordination with Accident Investigation Bureau (AIB) is initiated, upon receipt of such notification, to determine whether its independent investigation process is to be activated.

#### 1.3. PROCESSING OF MANDATORY REPORTS

Upon receipt of a mandatory report, it shall be validated to ensure that the reporter has provided all essential information.

The report will then be classified into the following categories:

- 1. accident;
- 2. serious incident;
- 3. incident;
- 4. other occurrence.

After classification, the report record will be uploaded into the appropriate database with an assigned occurrence reference number.

The status of each report will be categorized and updated as follows:

- a) Initial notification: For evaluation/follow-up/information as annotated.
- b) Under investigation: Investigation by either AIB/GCAA/Service provider] in progress as annotated.
- c) Investigation completed: Investigation results/data received and uploaded.
- d) Closed: No further action required.

Note. — Notification and submission of accident and serious incident data reports to ICAO is the responsibility of the AIB.

#### 1.4. ACCIDENT/SERIOUS INCIDENT/INCIDENT CLASSIFICATION

The classification of accident, serious incident and other incident will be based on ICAO Annex 13 definitions.

Occurrences that are classified as accidents or serious incidents may require independent investigations by the AIB. In such cases, the assigned GCAA representative tracks the independent investigation process outcomes and provides updates to GCAA database as necessary.

For incidents and other occurrences (including defects/malfunctions/service difficulties) that are not the subject of the AIB investigation process, the assigned GCAA representative will liaise with the relevant party for necessary follow-up investigation and report submission as applicable.

#### 1.5. FOLLOW-UP/INVESTIGATION

For occurrences that require follow-up action or investigation by the service provider's internal safety/quality function, the GCAA representative will liaise with the service provider's authorized safety/quality representative to ensure the timely follow-up and closure of the occurrence as appropriate.

The assigned GCAA representative monitors and determines whether GCAA intervention before, during or after a service provider's internal safety occurrence investigation and resolution process is necessary.

On completion and receipt of the follow-up/investigation report, the GCAA representative enters all relevant information received into the relevant database. In the case of investigation reports issued by AIB, the GCAA representative liaises with that Authority for the necessary uploading of such data reports into the database.

Where GCAA administrative (enforcement) action following the conclusion of an occurrence investigation report is deemed necessary, such recommendations are forwarded by the relevant inspector to the Director General for approval in accordance with GCAA enforcement procedure as directed by the Director, Legal Services. In the case of investigation reports issued by AIB due consideration must be would be given to the objective of the investigation set forth in Annex 13.

#### 2. PART 1. REPORTING TIMELINES

Doc 9859, App3 to Chapter 4, Annex A, Part I Reporting Timelines:

	Notification to the CAA	Mandatory Report (Form GCAA/SRD/ASAS- 04) submission to the CAA **	Investigation Report to the CAA***
Accident	Immediate/As soon as possible	Within 24 hours	90 days
Serious incident	Immediate/As soon as possible	Within 48 hours	60 days
Incident	N/A	Within 72 hours	30 days (where required)

<sup>\*</sup> Telephone, facsimile or e-mail will in most cases constitute the most suitable and quickest means to send a notification.

Also see Annex 13 for requirements for Initial Notification and information to be provided.

# 2.1. APP3 TO CHAPTER 4, ANNEX "A", PART II EXAMPLES OF REPORTABLE OCCURRENCES

Note: The list below is not exhaustive and does not include accidents.

#### 1.1 AIR OPERATOR:

- Near collisions requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate.
- Controlled flight into terrain only marginally avoided.
- Aborted take-offs on a closed or engaged runway, on a taxiway or unassigned runway.
- Take-offs from a closed or engaged runway, from a taxiway or unassigned runway.
- Landings or attempted landings on a closed or engaged runway, on a taxiway1 or unassigned runway.
- Gross failures to achieve predicted performance during take-off or initial climb.
- Fires and smoke in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents.
- Events requiring the emergency use of oxygen by the flight crew.
- Aircraft structural failures or engine disintegrations, including uncontained turbine engine failures, not classified as an accident.
- Multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft.

<sup>\*\*</sup> This column does not apply to members of the public.

<sup>\*\*\*</sup> This column does not apply to investigation reports from the AIB.

- Flight crew incapacitation in flight.
- Fuel quantity requiring the declaration of an emergency by the pilot.
- Runway incursions classified with severity A. The *Manual on the Prevention of Runway Incursions* (Doc 9870) contains information on the severity classifications.
- Take-off or landing incidents. Incidents such as under-shooting, overrunning or running off the side of runways
- System failures, weather phenomena, operations outside the approved flight envelope or other occurrences, which could have caused difficulties controlling the aircraft.
- Failures of more than one system in a redundancy system mandatory for flight guidance and navigation.

#### 2.2. MAINTENANCE ORGANIZATION:

 Any airframe, engine, propeller, component or system defect/malfunction/ damage found during scheduled or unscheduled aircraft (airframe/ engines/ components) maintenance activities, which could possibly lead to an aircraft operational accident or serious incident (if not promptly rectified).

#### 2.3. DESIGN & MANUFACTURING ORGANIZATIONS:

 Any design or manufacturing related deficiency/defect/malfunction of product or services discovered by or brought to the attention of the Design/Manufacturing organization which is deemed to warrant the possible issue of an Emergency Airworthiness Directive (EAD), Airworthiness Directive (AD) or Alert Service Bulletin (ASB).

#### 2.4. AERODROME OPERATOR:

- Runway incursion (with no ATC involvement).
- Runway excursion/ overshoot (with no ATC involvement).
- Failure or significant malfunction of airfield lighting.
- Damage to aircraft or engine resulting from contact or ingestion of foreign objects or debris on runway or taxiway.
- Incidents within the aerodrome boundary involving damage to aircraft or with potential impact on aircraft ground movement safety.

Note: Critical Safety Data associated with the above occurrence are discussed in detail in Doc 9981-PANS Aerodromes

#### 2.5. ANS/CNS PROVIDER:

- Any ANS/CNS related equipment or system defect/malfunction/damage discovered during operation or equipment maintenance, which could possibly lead to an aircraft operational accident or serious incident.
- Unauthorised penetration of airspace.
- Aircraft near Control Flight Into Terrain (CFIT).
- Significant level bust incidents.

Note: Other specific or service provider specific mandatory (compulsory) reporting systems existing within a Ghana, such as per Annex 8, Pt II, 4.2.3(f) and 4.2.4, continuing airworthiness reporting; necessary correlation or integration with this State Safety Program (SSP) related Mandatory Reporting procedure will be addressed as appropriate.

# 3. MANDATORY OCCURRENCE REPORTING OF SAFETY OCCURRENCES BY AERODROME OPERATORS

#### References

GCAD 24.69 - Accident and Mandatory Occurrence Reporting and Investigation
Doc 9981 Sec 2.4.3 - State's feedback on occurrences
Doc 9981 Chapter 2, Appendix 2-Critical Data Related to Safety Occurrences Reported at
Aerodromes for the Monitoring of Safety

#### 3.1. INTRODUCTION

The section of the AC specifies the role of the Authority in the coordination process and the interaction between the Aerodrome Operators and other stakeholders, which is necessary for the safety of operations at the aerodrome.

#### 3.2. GCAA FEEDBACK ON OCCURRENCES

Aerodrome Operators are required to report safety occurrences at their aerodromes to GCAA in accordance with the applicable Directive.

Aerodrome Operators shall report accidents and serious incidents, including:

- a) runway excursions;
- b) undershoots;
- c) runway incursions;
- d) landing or take-off on a taxiway; and
- e) wildlife strike-related events.

Note: List in Doc 9859 - Appendix 3 to Chapter 4, Annex A, PART II

In addition to accidents and serious incidents, Aerodrome Operators should report safety occurrences of the following types:

- a) foreign object debris/damage- (FOD) related event;
- b) other excursions (i.e. from a taxiway or apron);
- c) other incursions (i.e. on taxiway or apron); and
- d) ground collisions.

Note.— Appendix 2 details the list of safety occurrences types and related critical data which should be reported at an aerodrome. The related tasks for reporting these occurrences and to feed the data when required are shared and coordinated between the various aerodrome stakeholders.

Note.— The provisions in this appendix do not override the requirements in Annex 13 — Aircraft Accident and Incident Investigation, concerning the mandatory reporting of certain types of accidents/serious incidents and the responsibilities of the various parties involved.

Aerodrome Operators should ensure that competent personnel who have been trained to perform these tasks perform analysis of safety occurrences at the aerodrome.

Aerodrome Operators should coordinate with all users of the aerodrome, including aircraft operators, ground-handling agencies, air navigation service providers and other stakeholders to improve the completeness and accuracy of the collection of safety occurrences and their related critical data.

The GCAA would review and analyse the information provided by the operator in the occurrences reports to ensure that:

- a) all occurrences in ICAO Document 9981, PAN Aerodromes 2.4.3.2 and 2.4.3.3 are adequately analysed by the Aerodrome Operator;
- b) significant trends are identified (either on a specific aerodrome or at a national level). Further in-depth analysis on the subject should be carried out if required so that the appropriate actions can be taken; and
- c) the most serious/significant occurrences should be carefully followed up by the GCAA.

The output of these analyses can be used as input for the planning of continued oversight.

Note.— Variations in the frequency of occurrences reports on a specific aerodrome, other than those occurring as a result of seasonal variations in the types and/or levels of operations, could be considered to be an indicator of a potential problem in the reporting culture on the aerodrome or a specific danger that should have been studied by the Aerodrome Operator. The continued oversight of the reporting processes or subjects with a high frequency of occurrence should be reinforced.

# 4. CRITICAL DATA RELATED TO SAFETY OCCURRENCES REPORTED AT AERODROMES FOR THE MONITORING OF SAFETY.

When safety occurrences of the following types are reported, the following critical data will be collected by the GCAA when relevant and feasible. This may require a collaborative effort from the Aerodrome Operator, Air Navigation Service Provider (ANSP) or other involved parties commensurate with the severity of the potential risk attached to each occurrence.

#### **4.1. RUNWAY EXCURSIONS**

- a) type of event (lateral veer-off, overrun);
- b) landing/take-off;
- c) type of approach if it is a landing event (local time or Coordinated Universal Time UTC);
- d) date and time (local time or UTC);
- e) aeroplane type;
- f) runway:
  - 1. dimensions (width/length);
  - 2. slopes;
  - 3. displaced threshold (yes/no, and if so, distance between the runway threshold and the runway edge);
  - 4. runway end safety area (RESA) (yes/no, and if so, orientation, dimensions and structure);
  - 5. contaminated runway (yes/no, and if so, contaminant type (slush, snow, ice, water, other (to be specified), contaminant depth);
- g) wind (direction and speed);
- h) visibility;
- i) details of the exit:
  - 1. exit speed or estimation;
  - 2. aeroplane angle with the runway edge;
  - 3. distance between the touchdown and the exit;
  - 4. description of the trajectory of the aeroplane once on the runway strip and/or RESA;
- j) details of the location of the aeroplane once stopped.

Note 1.— For overruns, information to be reported includes longitudinal position in relation to the threshold location and/or end of runway surface and lateral position in relation to runway lateral edge or runway centre line.

Note 2.— Runway excursions are serious incidents, if not accidents, according to Annex 13, Attachment C. This would normally imply that the AIB would become involved, and coordination with the GCAA and other relevant authorities.

#### 4.2. UNDERSHOOT (LAND SHORT OF RUNWAY)

- a. type of event (land short, undershoot);
- b. type of approach;
- c. ground-based vertical guidance available and operational (instrument landing system (ILS), precision approach path indicator (PAPI), abbreviated precision approach path indicator (APAPI));
- d. date and time (local time or UTC);
- e. wind speed (including gusts), description (calm/variable) and direction;
- f. visibility;
- g. aeroplane type;
- h. runway:
  - dimensions (width/length);
  - 2. slopes;
  - 3. displaced threshold (yes/no, and if so, distance between the runway threshold and the runway edge);
  - 4. RESA (yes/no, and if so, magnetic orientation of runway, dimensions and structure);
  - 5. contaminated runway (yes/no, and if so, contaminant type (water, other (to be specified), contaminant depth);
- i. details of the undershoot (aeroplane speed at touchdown, distance between the touchdown and the runway edge, causes of the event):
  - 1) description of the trajectory of the aeroplane after touchdown.

Note 2.— Runway undershoots are serious incidents, if not accidents, according to Annex 13, Attachment C. This would normally imply that the AIBS would become involved, and coordination with the GCAA and other relevant authorities.

#### 4.3. RUNWAY INCURSION

- a. entities involved (aeroplane/vehicle; aeroplane/aeroplane; aeroplane/person);
- b. date and time (local time or UTC);
- c. aeroplane type, landing/take-off, type of approach;
- d. vehicle type, location;
- e. runway:
  - dimensions (width/length);
  - 2. slopes/line of sight;
  - 3. displaced threshold (yes/no, and if so, distance between the runway threshold and the runway edge);
  - 4. rapid exits;
  - 5. wind;
  - 6. visibility;
- f. details of the incursion:
  - 1. description of the trajectories and speeds of both vehicles/aeroplanes;
  - 2. estimated distances (horizontal and vertical) between the entities involved;

- 3. contaminated operational surfaces in the incursion area (yes/no, and if so, contaminant type (slush, snow, ice, water, other (to be specified), contaminant depth).
- Note 2.— Runway excursions are serious incidents, if not accidents, according to Annex 13, Attachment C. This would normally imply that the AIB would become involved, and coordination with the GCAA and other relevant authorities.
- Note 2.— Guidance on prevention of runway incursions, including severity classification, is available in Doc 9870 Manual on the Prevention of Runway Incursions).

#### 4.4. LANDING OR TAKE-OFF ON A TAXIWAY

- a) landing/take-off;
- b) type of approach when relevant;
- c) date and time (local time or UTC);
- d) wind;
- e) visibility;
- f) aeroplane type;
- g) taxiway:
  - 1. dimensions (width/length);
  - 2. slopes;
- h) details of the event:
  - 1. possible contributing factors (e.g. inadequate lighting, procedure not applied, works, inadequate or misleading marking).

Note.— Landing and take-off on taxiways are serious incidents according to Annex 13, Attachment C. This would normally imply that the AIB would become involved, and coordination with the GCAA and other relevant authorities.

#### 4.5. FOD-RELATED EVENTS

- a. type of event;
- b. location (runway, orientation, or taxiway, stand), location of FOD, including where possible lateral and
- c. longitudinal positions;
- d. date and time (local time or UTC);
- e. FOD description:
  - 1. name (if possible);
  - 2. shape and dimensions;
  - 3. material;
  - 4. colour;
  - 5. origin (if known: lighting, infrastructure, works, animals, aeroplane, environment (wind, etc.)).

#### 4.6. OTHER EXCURSIONS (I.E. FROM THE TAXIWAY OR APRON)

- a. date and time (local time or UTC);
- b. aeroplane type;
- c. taxiway:
  - 1. dimensions (width/length);
  - 2. slopes;
  - 3. if in a curved section: fillets (yes/no, and characteristics);
  - 4. contaminated taxiway (yes/no, and if so, contaminant type (slush, snow, ice, water, other (to be specified) and contaminant depth);
- d. wind (direction and speed);
- e. details of the exit (exit speed or estimation, aeroplane angle with the taxiway edge, in a straight or a curved
- f. section, causes of the event);
- g. details of the location of the aeroplane once stopped.

#### 4.7. OTHER INCURSIONS (I.E. ON TAXIWAY OR APRON)

Same data as for item 2 (undershoot).

#### 4.8. BIRDS/WILDLIFE STRIKE-RELATED EVENTS

This will be conducted in accordance with ICAO bird strike information system (IBIS) data (ingestion, collision). If there has been no collision, and the animal was avoided, it is important to know the location of the animal at the time the avoided collision occurred.

Subject to the provisions of GCAD Part 24, the commander of an aircraft must make a report to the GCAA of any bird strike occurrence, which occurs whilst the aircraft is in flight in or over the territories of the Ghana.

The report must be made within such time, by such means and contain such information as may be prescribed and it must be presented in such form as the GCAA may in any particular case approve.

In this article 'bird strike occurrence' means an incident in flight in which the commander of an aircraft has reason to believe that the aircraft has been in collision with one or more birds.

Reporting for Bird strike Occurrence is available on GCAA website (<a href="http://www.gcaa.com.gh">http://www.gcaa.com.gh</a>) Form GCAA/SRD/ASAS-06 (will be available for a further period of time, until replaced by an online reporting form). Reporters are reminded that Form GCAA/SRD/ASAS-06 cannot be completed or submitted online, but should be either faxed to the number notified on the form.

#### 4.9. GROUND COLLISIONS

- a. type of event (ground collision);
- b. location:
  - 1. apron;
  - 2. manoeuvring area;
  - 3. runway, taxiway;

- 4. contaminant (if relevant: type and depth);
- 5. wind (if relevant);
- c. date and time (local time or UTC);
- d. phase of flight (e.g. taxi out, departure roll, engine start/pushback);
- e. aeroplane(s) involved;
  - 1. type of aeroplane and trajectory;
- f. vehicle(s) involved;
  - 1. type of vehicle and trajectory;
- g. material damages (to both aeroplane(s) and/or vehicle(s))/human damages and location of the damages;
- h. phase of operation, if ground handling is involved;
- i. description of the collision:
  - estimated speed of both vehicle(s) and/or aeroplane(s);
  - 2. description of the trajectories of the aeroplane(s) and/or the vehicle(s).

Note 1.— Ground collisions involving aeroplanes can be incidents, serious incidents or accidents. If classified as an incident, they are normally investigated as part of the aerodrome's SMS. If classified as a serious incident or accident, the AIB would become involved, in coordination with other relevant authorities, where applicable.

Note 2.— Ground collisions not involving aeroplanes can be an incident and investigated as part of the aerodrome's SMS.

#### 4.10. LASER INCIDENTS REPORTED TO GCAA

Aiming a laser at an aircraft is a serious safety risk and violates GCAA Directives. Many high-powered lasers causes confusion and can completely incapacitate pilots who are trying to fly safely to their destinations and may be carrying hundreds of passengers.

The GCAA is working with local law enforcement agencies to pursue civil and criminal penalties against individuals who purposely aim a laser at an aircraft.

The GCAA mandates that laser illuminations be reported to the Aerodrome Safety and Standards Section of the Safety Directive Department. Some information to include during reporting to the GCAA includes the following;

- Your name and contact information
- Date and time you witnessed the incident
- Your viewing location
- Apparent location or **source of the laser beam** (What direction? How far away?)
- If the aircraft was landing or taking off, what is the name of the airport?
- Colour of the laser beam
- Apparent **power** of the beam (Very visible? Visible only as a dot on objects?)
- How the laser was used (Deliberate targeting of aircraft? Accidental illumination?)

- Duration of the laser use
- Whether you saw the laser **illuminate** the aircraft
- Any change or action taken by the aircraft