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## 1.0 PURPOSE

This Advisory Circular (AC) provides procedures and guidance that may be used by an aerodrome operator for the notification and evaluation of changes to aerodrome physical characteristics, facilities or equipment.

## 2.0 REFERENCES

- 2.1 ICAO Annex 14 – Volume 1, 7<sup>th</sup> Edition, July 2016
- 2.2 Civil Aviation (Aerodromes) Regulations 2017, as amended
- 2.3 Manual of Aerodrome Standards, 4<sup>th</sup> Edition, December 2016

## 3.0 GUIDANCE AND PROCEDURES

### 3.1 Aerodrome Reporting


#### 3.1.1 Introduction

The Civil Aviation Authority (TCAA) must be informed in advance of any development proposed at licensed aerodromes. In particular the aerodrome license conditions states, amongst other, issues:

- a) Changes in the physical characteristics of the aerodrome, including the erection of new buildings and alterations to existing buildings or to visual aids, shall not be made without prior approval of the TCAA.
- b) The licensee shall, by the quickest means available, notify the TCAA of any material change in the surface of the landing area, or in the obstruction characteristics of the approach, take-off or circuit in relation to the aerodrome

**Note:** *Contact List & Organizational Structure for the telephone numbers of those persons identified as having responsibility for implementing the procedures are detailed in the Aerodrome Manuals.*

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### 3.1.2 Purpose

The aim of these procedures is to ensure that the aerodrome operator notify and conduct evaluation on impact of changes on the physical characteristics, facilities or equipment.

### 3.1.3 Responsibilities

The Aerodrome General Manager has overall responsibility for ensuring that procedures are established and resources provided to report and evaluate changes to aerodrome physical characteristics, the OLS, facilities, equipment or any other change that may affect the safety of aircraft operations.

The Airside Safety Manager is responsible for documenting reporting procedures and for advising AIS of permanent changes to aerodrome information. He is also responsible for advising TCAA of any **significant** changes to aerodrome information that may occur. The Aerodrome Operations Supervisor is responsible for implementing the reporting procedures documented in this AC.


The Senior Operations Officers are responsible for reporting the day-to-day serviceability of the aerodrome and notifying temporary changes to published aeronautical information to ATS and the TCAA.

### 3.1.4 Legislation, Standards and Technical References

Regulation 120 of the Civil Aviation (Aerodromes) regulations 2017 requires operators to provide up to data and information on aerodromes and on hazards to air navigation. It does this through the Aeronautical Information Publications (AIP) and Notices to Airmen (NOTAM).

Regulation 53 of the Civil Aviation (Aerodromes) regulations 2017 requires the operator to notify TCAA and AIS immediately of any changes in aerodrome information or in the serviceability of aerodrome facilities. Failure to do so may jeopardize the safety of aircraft operations.

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Regulation 136 also imposes requirements on conducting aeronautical study to determine conditions and procedures that are necessary to ensure a level of safety equivalent to that established by the relevant standard whenever there is any change in the physical characteristics, facilities or equipment.

AIP (AD) lists requirements for the publication of permanent aerodrome information, and gives details of what, how and where to report, if there are changes to aerodrome information, serviceability and obstacles.

Additional information can be found in the Manual of Aerodrome Standards (MoS) and in AIP (AD)

### 3.1.5 Reporting Procedures


Any situation that may have an immediate affect on the safety of aircraft operations will be reported in the first instance to ATC by radio or telephone. Confirmation by NOTAM, if applicable, will follow as soon as possible.

The designated ATC Reporting Centre for *{name}* Aerodrome is:

- a) For verbal reports to ATC – *{name}* Ground (*nnn.nn* MHz) or Senior Tower Controller by telephone;
- b) For NOTAM action – NOTAM Office (NOF).

NOTE: Urgent messages conveyed by radio to the Control Tower will be confirmed by phone or fax to the NOF as soon as possible

In most cases aerodrome conditions or new obstacles that need to be reported immediately will be detected during the daily serviceability inspections. The procedures for these inspections and requirements for logging the results of inspections are detailed in Chapter 4 of the Manual of Aerodromes Standards (MoS).

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All NOTAM action is recorded in the NOTAM Logbook that is maintained by the Senior Operations Officers. This logbook will be made available on request by authorized TCAA officers for audit.

Permanent changes in aerodrome information will be advised directly to TCAA. Changes may be advised by email to {email address}

The Airside Safety Manager will also forward significant changes to information to TCAA’s Regional Office. The Airside Safety Manager will keep copies of amendments requested on file. The file will be made available for audit on request by authorized TCAA officers.


### 3.1.6 NOTAM

NOTAM are used to advise pilots and other persons concerned with flying operations about matters of an urgent nature that may affect the safety of aircraft operations. In relation to an aerodrome this includes temporary changes in published information, unserviceabilities, or newly detected obstacles.

At {name} Aerodrome the delegation to originate a NOTAM is restricted to the Aerodrome General Manager, the Airside Safety Manager, the Aerodrome Operations Supervisor, and Operations Officers.

NOTAM will be originated in the standard NOTAM format for any of the following circumstances:

- a) A change in the serviceability of the manoeuvring area;
- b) A change in the operational information such as level of fire protection, closure of taxiway and runway, change in aerodrome operational hours due to construction or maintenance and any other changes that may affect operational status;

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- c) Aerodrome works effecting the manoeuvring area or penetrating the OLS;
- d) New obstacles which effect the safety of aircraft operations;
- e) Bird or animal hazards on or in the vicinity of the aerodrome; or.
- f) A change in the availability of aerodrome visual aids, i.e. markers and markings, runway lighting, etc.
- g) Any change in aerodrome information published in AIP, which exceed the limits.

NOTAM information must be provided by fax. Where urgent advice is given by telephone in the first instance, it must be confirmed by fax as soon as possible.


Reporting Officers raising a NOTAM must subsequently check the issued NOTAM for accuracy. Normally this is done when the NOF fax back a copy of the issued NOTAM as per the request on the standard NOTAM form. If the NOF fail to do this, current NOTAM information may be obtained through the ATC system.

### 3.1.7 Incident Reporting

Any significant object found on the movement area such as an aircraft component or bird carcass will be reported.

Operations Officers who find aircraft parts will immediately advise ATC, and then attempt to identify the part through various airline engineering sections. ATC may choose to alert the pilot of the aircraft that may have been involved.

Operations Officers will report bird strikes in accordance with the procedures detailed in the specific Aerodrome Manual.


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All incidents are to be recorded in the Operations Officers Logbook. Where necessary an additional written Incident Report will be raised.

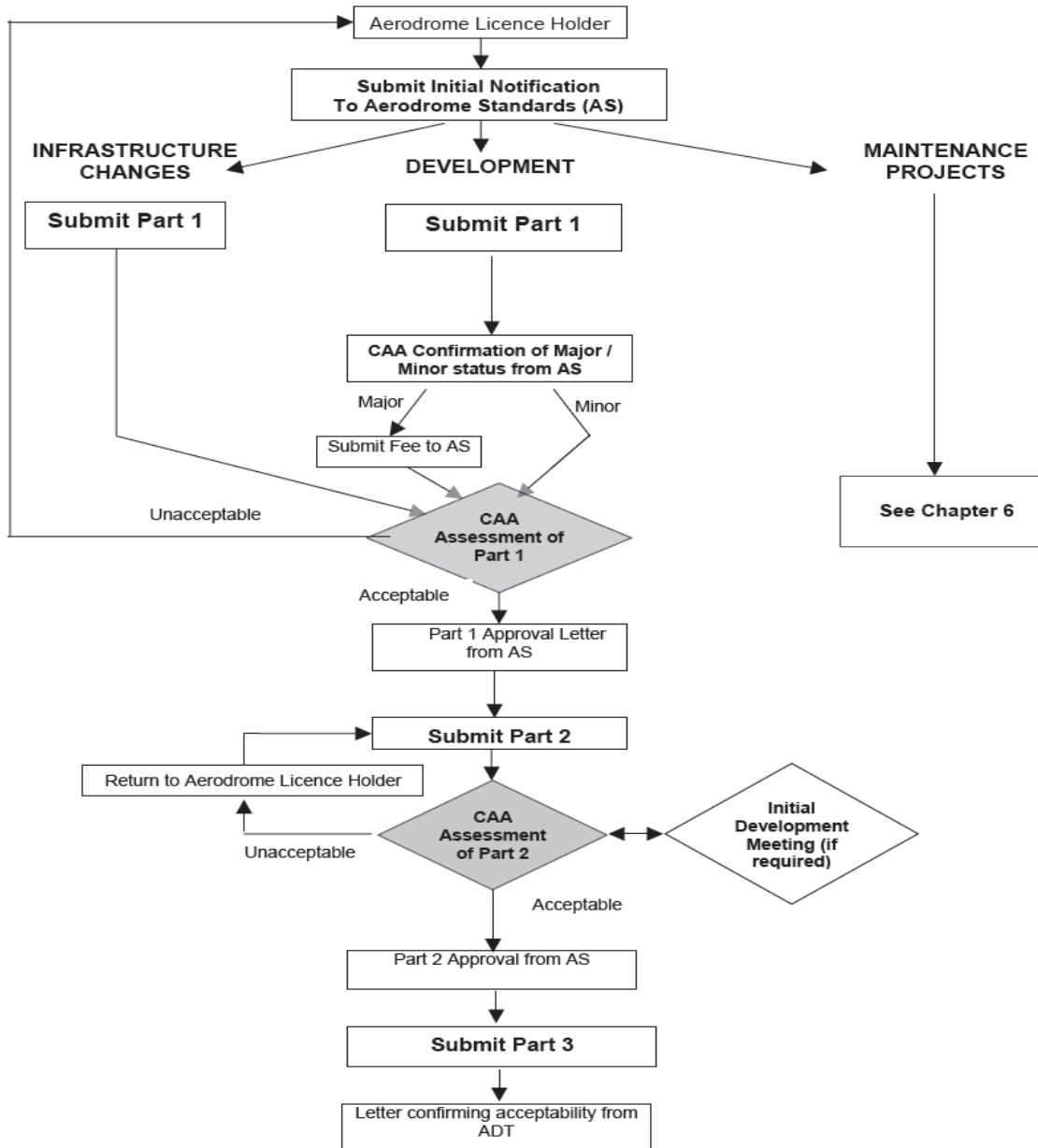
The Aerodrome General Manager or Airside Safety Manager will determine if an Air Safety Incident Report (ASIR) needs to be completed and submitted to Accident Investigation Branch. The Aerodrome General Manager will initiate and coordinate internal investigations into aviation incidents of interest to the Aerodrome.


### 3.1.8 AIP Changes to be promulgated by NOTAM

- a) **Aerodrome Coordinates** - Change exceeds 0.5 nautical miles.
- b) **Aerodrome Elevation - Alterations** in excess of 20 FT for
- c) **Aerodromes with an instrument approach**, or 100 FT for other aerodromes.
- d) **Runway Bearing** - Change of 5 degrees or greater
- e) **Pavement Rating** - Any reduction
- f) **Runway or Runway Strip Width** - Any change
- g) **Runway Slope** - Any change
- h) **Runway Surface** - Any change
- i) **Declared Distances** - Any change greater than 10 metre decrease or 30 metre increase
- j) **TODA Gradient** - 0.05% change or greater

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### SUBMISSION PROCEDURE FLOWCHART




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**NOTIFICATION OF CHANGES TO THE PHYSICAL CHARACTERISTICS**

<b>1. AERODROME DETAILS</b>
Aerodrome Name: ..... Aerodrome Address: ..... ..... ..... Accountable Manager: Name:..... Tel:..... Email: ..... Project Manager: Name:..... Tel:..... Email: .....
<b>2. PROJECT DETAILS</b>
Title of Project:..... Reason for Change: ..... Brief Description: ..... ..... ..... Planned Commencement Date: ..... Planned Duration of Work: ..... Estimated Completion Date: ..... Aerodrome closed during Work in Progress? YES / NO ( <i>Delete as applicable</i> ) Hours of Work: .....



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**NOTIFICATION OF CHANGES TO THE PHYSICAL CHARACTERISTICS**

**3. SUPPORTING DOCUMENTS ATTACHED**

List of Enclosed Documents:

.....

.....

.....

.....

.....

**4. IMPACT ON OBSTACLE LIMITATION SURFACES (OLS)**

Grid Co-ordinates (Northings and Eastings) of Structure: .....

Ground height at site location: .....

Maximum height of Structure: .....

Height of relevant OLS at Site Location: .....

**5. STRIP CLEARANCES**

Structure(s) outside Runway & Taxiway Strip: YES / NO *(Delete as applicable)*

Structure(s) outside Runway Cleared & Graded Area: YES / NO *(Delete as applicable)*

If 'No', please provide details below: .....

.....

.....

.....

.....

**6. FOR RUNWAY EXTENSIONS, DETAILS OF DECLARED DISTANCES**

6.1 TODA: TORA: LDA: ASDA:


TODA: TORA: LDA: ASDA:

**7. RUNWAY STATUS**

7.1 Existing: Non-Instrument/Instrument\* *(Delete as applicable)*


Proposed: Non-Instrument/Instrument\* *(Delete as applicable)*

(\* For example, ILS / MLS)

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### 3.2 Evaluation of the impact of the changes on safety of existing operations

- 3.2.1 All development is expected at least to meet the minimum standards. During the planning process existing variations on the aerodrome certificate should be examined to determine whether they can be removed or improved as part of the development.
- 3.2.2 However, there may be circumstances when a safety significant development is deemed essential but:
- a) it falls outside the scope of Manual of Aerodrome Standards or;
  - b) the requirements of the Manual of Aerodrome Standards cannot be met; or
  - c) an existing variation cannot be corrected.
- 3.2.3 In these circumstances an assessment of risk, showing clearly that the risk is at a level acceptable to both the aerodrome management and the TCAA will be necessary. Provision and funding of the assessment is the aerodrome's responsibility.
- 3.2.4 The type of risk assessment undertaken will vary depending upon the safety criticality of the development. If the possible consequences were a serious accident to an aircraft (significant damage or worse), a full quantitative analysis by risk assessment specialists might be required. However, in many circumstances where the severity of the potential hazards is not great or can be easily mitigated, the risk assessment can be carried out by a small group of local managers using their own experience and specialist knowledge. TCAA can advise which of the two options may be the most appropriate. It should be noted that the submission of a risk or safety assessment does not automatically guarantee approval of a project.
- 3.2.5 Whatever the risk comparator chosen, aerodrome management should be aware that it would be most unwise to begin a development before the TCAA has ensured there are no objections to it.

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### 3.3 Process for Evaluating Impact of Changes on Safety


It almost obvious that changes to the physical characteristics resulting from development, of facilities and equipment may come with impact on safety. The aerodrome operator is thus obliged to conduct safety assessment. The safety assessment process addresses the impact of a safety concern, including a change or deviation, on the safety of operations at the aerodrome and takes into consideration the aerodrome’s capacity and the efficiency of operations, as necessary.

An aeronautical study, where permitted in Annex 14, Volume I, may be carried out when aerodrome standards cannot be met as a result of development. An aeronautical study is conducted to:

- a) assess the impact of deviations from the aerodrome standards specified in Annex 14, Volume I, and the national regulations;
- b) to present alternative means of ensuring the safety of aircraft operations;
- c) to estimate the effectiveness of each alternative, and;
- d) to recommend procedures to compensate for the deviation (Doc 9774 — Manual on Certification of Aerodromes, Appendix 3).

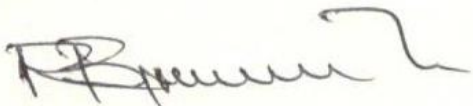
The suitability of the mitigation proposed and the need for alternative measures, operational procedures or operating restrictions for the specific operations concerned should be comprehensively evaluated

When a safety concern, change or deviation has an impact on several aerodrome stakeholders, consideration shall be given to the involvement of stakeholders affected in the safety assessment process. In some cases, the stakeholders impacted by the change will need to conduct a separated safety assessment themselves in order to fulfill their SMS requirements and coordinate with other stakeholders. When changes have

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an impact on multiple stakeholders, a collaborative safety assessment should be conducted to ensure compatibility on the final solution or mitigation measures.

It is noteworthy that such a procedure should be included in the Aerodrome Manual and promulgated to all stakeholders. The advantage of having such a procedure is that the regulator and stakeholders will have the background upon which effectiveness of the procedure is audited and evaluated whenever change of the physical characteristics, facilities or equipment occurs.




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**Tanzania Civil Aviation Authority**