

	TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS	Revision: 1 Advisory Circular
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ANALYSIS, SHARING AND EXCHANGE OF SAFETY DATA AND SAFETY INFORMATION

1.0 PURPOSE

This Advisory Circular (AC) establishes the requirements and framework for the analysis, sharing and exchange of safety data and safety information by safety providers. It is intended to strengthen confidence in safety data exchange to support risk-based decision making

2.0 REFERENCE

- 2.1 The Civil Aviation (Safety Management) Regulations
- 2.2 The Civil Aviation (Aircraft Accident and Incident Investigation) Regulations
- 2.3 ICAO Doc. 9859 Safety Management Manual
- 2.4 ICAO Doc. 10159 Safety Intelligence Manual

3.0 INTRODUCTION

Analysis, Sharing and Exchange of aviation safety information has been a subject of increasing interest for the industry and many aviation entities including working groups, committees and organizations that has been taking a leading role in promoting the concept of sharing of safety data among service providers and regulators. The accrual benefits resulting from analysis, sharing and exchange of safety data and safety information cannot be overemphasized. This advisory circular provides account of information aimed at enabling the service providers to build confidence in the conduct analysis and exchange of information and thereby understand overall health of the industry. Efforts have also been directed towards regional and global approaches to sharing of safety information with a view to continuously improve the state of aviation safety.

4.0 EXISTING SAFETY DATA SHARING SYSTEMS AND TAXONOMY

There are several safety data sharing systems that are implemented globally. However, the most popular ones are the existing data management and sharing systems recommended under ICAO as part of the Accident Data Reporting System (ADREP) taxonomy. Description of the schemes is as follows:

4.1 Mandatory Occurrence Reporting (MOR)

A principal source of safety information is the mandatory reporting system established under the Civil Aviation Act and Civil Aviation Regulations. Mandatory safety reporting systems should aim to capture all of the valuable information about an occurrence, including: what happened, where, when and to whom the report is addressed.

Mandatory occurrence reporting systems should provide for the capture of specific hazards which are known to contribute to accidents, the timely identification and communication of which is considered valuable (e.g. routine meteorological conditions, volcanic activity, etc.).

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The scheme requires 'responsible persons' (including aircraft crew, owners, operators, air traffic controllers, licensed aircraft maintenance engineers, ground crew and service providers) to notify the Aircraft Accident and Incident Investigation Branch (AAIB) the Tanzania Civil Aviation Authority (TCAA) on accidents and safety incidents ('safety occurrences').

Where the duty to report rests with an individual, it can be fulfilled by the individual notifying the service provider who employs them. The service provider then has a duty to pass the information on to the AAIB and TCAA.

4.2 Voluntary Reporting System

In a voluntary reporting system, the reporting person, without any legal or administrative requirement to do so, submits a voluntary incident/accident report. The general rule in voluntary reporting systems is that the reported information should not be used against the reporting person, i.e. such systems must be non-punitive and error-tolerant to encourage further reporting of safety related information:

4.3 European Co-ordination Centre for Aviation Incident Reporting System (ECCAIRS).

The ADREP system operates using a software platform developed by the European Union (EU) - the European Co-ordination Centre for Aviation Incident Reporting System (ECCAIRS). ECCAIRS is a digital platform established to assist aviation stakeholders in collecting, sharing and analysing their safety aviation information. It is a cloud-based reporting system that provides accident and incident reporting functionalities in accordance with Annex 13, as well as other safety reporting features in accordance with other ICAO Annexes.

ECCAIRS facilitates the submission of notification of occurrences and accident/incident reports to ICAO

5.0 TAXONOMIES

The Safety data should ideally be categorized using taxonomies and supporting definitions so that the data can be captured and stored using meaningful terms. Common taxonomies and definitions establish a standard language, improving the quality of information and communication.

Using taxonomies and supporting definitions establishes a standard and common industry language across different systems. The use of common taxonomies:

- a) allows the comparison of safety data and safety information;
- b) makes the collection and storage of data more meaningful;
- c) improves the quality of data, information and communication;
- d) ensures the consistency of data and information for generating safety intelligence;
- e) makes it easier and simpler to classify and process data and information;
- f) enhances and improves analysis;
- g) supports the application of advanced analysis methods and technologies (such as machine learning);
- h) enhances the aviation community's ability and capacity to focus on safety issues and to understand safety risks; and
- i) facilitates sharing and exchange of information, particularly across multiple and different systems.

There are a number of industry common aviation taxonomies. Some examples include:

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- a) ADREP: an occurrence category taxonomy that is part of ICAO's accident and incident reporting system. It is a compilation of attributes and the related values that allow safety trend analysis on these categories.
- b) Commercial Aviation Safety Team (CAST)/International Civil Aviation Organization (ICAO) Common Taxonomy Team (CICTT): tasked with developing common taxonomies and definitions for aircraft accident and incident reporting systems.

6.0 BENEFITS FOR SHARING OF SAFETY INFORMATION

Among the most important benefits for sharing of safety information is identifying of dominant occurrence types, causative factors and latent conditions surrounding the occurrences. In this way, the services providers or organizations can well establish the basis for learning from the occurrences and allocate adequate resources to ensure that no recurrence of the same event happens. For the Authority, it will be able to establish proper mechanism in ensuring that adequate defences are implemented by and against the service providers to lower down the events to As Low As Reasonably Practicable (ALARP) within the available means and processes whilst focusing on implementation of the Safety Management System (SMS).

7.0 PROCEDURE FOR SHARING OF SAFETY DATA

7.1 Background

The Service providers should be aware that there should be established platforms, procedures and processes to enable a reliable and confident environment for exchange of safety information without which there will be inadequate conditions for ensuring trust among the sharing partners.

7.2 Platforms for Safety Information Sharing

Sharing and analysis of safety information can be facilitated between and among platforms. This includes:

- a) The SSP and Service Provider(s)
- b) Between and among the Service Providers
- c) The SSP and the Safety Oversight system
- d) The SSP and regional Aviation Organizations and
- e) The CAA and international Aviation organization(s)

More emphasis for implementation is placed on the platforms (a) and (b) above.

7.3 Policy Statement

As part of implementation of the Safety Management System (SMS), service providers are encouraged to incorporate aspects of the data sharing and analysis in their Safety Policy. The policy which shall be endorsed by the Accountable Executive should explicitly indicate willingness of an organization on safety information sharing and analysis at organizational and national levels in an endeavor to understand the overall safety within an organization or State.

7.4 Facilitating Communication Among Safety Information Sharing Partners

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The Authority shall be spearheading the process and continuously facilitate information sharing between the Authority and service providers. In addition, the facilitation shall be covered to ensure that service providers have a secure platform and confidence in exchanging safety information originating from one another. More importantly, the Authority shall implement its mandate to facilitate SAFETY PROMOTION in accordance with the Civil Aviation (Safety Management) Regulations. In this, the Authority should incessantly conduct safety training and communication to promote safety information sharing and analysis.

7.5 Establishing Memorandum of Understanding

A Memorandum of Understanding (MoU) shall be entered into between parties involved and shall state explicitly that the aviation safety information shared shall be used exclusively for safety improvement purposes, specifically, for the prevention of aviation accidents or incidents and shall not be used outside Safety Management environment or disseminated without consensus between parties involved. Each party shall take all necessary measures to ensure that the exchanged safety information is properly stored and protected and is not disclosed to any unauthorized person to have access to such information.

8.0 LIMITATION ON THE USE OF REPORTED SAFETY DATA

To ensure that sharing and analysis is achieved and maintained, there should be some limiting conditions that include:

- a) The Authority may use information reported under the mandatory reporting system as the basis for informing its need to initiate its own inquiries in the interests of safety. However, the Authority will not rely on the report in taking action unless it is necessary to do so in the demonstrable interests of safety;
- b) The Authority will not recommend the organization for criminal proceedings in matters which come to its attention only because they have been reported under mandatory reporting scheme. The exceptions will be in cases of conduct that should not be tolerated, such as where a person has acted intentionally, knowingly, recklessly or with gross negligence.



Tanzania Civil Aviation Authority