1.0 PURPOSE

This Advisory Circular is provided to give guidance to Approved Training Organizations (ATOs) on how to develop, implement, and maintain an effective hazard identification process. The objective is to ensure that all potential hazards within training environments are proactively identified, assessed, and managed in accordance with the Civil Aviation (Safety Management) Regulations and ICAO safety management principles. This process forms a critical part of a functioning Safety Management System (SMS) and contributes to reducing safety risks in flight and ground training operations.

2.0 REFERENCE

i. Civil Aviation (Safety Management) Regulations,2018

ii. ICAO Doc 9859 – Safety Management Manual (SMM)

3.0 SCOPE AND APPLICATION

This procedure applies to all personnel, activities, facilities, and operations conducted under the scope of the ATO, including flight, simulator, and theoretical training. It is designed to be scalable to the size, complexity, and operational nature of the organization.

4.0TYPES OF HAZRDS

Hazards are often qualified by their nature:

i. Natural (weather, geography, wildlife, etc.)
ii. Technical (failure of a product component, danger of installation, etc.)
iii. Human (related to human performance and limitations)
iv. Organizational (resource allocation, recruitment policy, remuneration, training, decision-making, etc.)
v. Work environment (light, temperature, noise, etc.)
vi. Economic (growth, recession, increase in costs, etc.)

5.0 HAZARD IDENTIFICATION GENERAL

5.1 A hazard is defined as any condition, object, or circumstance with the potential to cause injury to personnel, damage to equipment or infrastructure, loss of materials, or degradation of the ability to carry out essential functions. Identifying hazards is a fundamental element of effective safety management and risk mitigation.

5.2 Hazard identification may occur through three primary approaches:

a. **Reactive** – Identifying hazards by analysing events that have already occurred, such as accidents or incidents.
b. **Proactive** – Identifying potential hazards through safety assessments, inspections, and internal reporting before they result in adverse events.
c. **Predictive** – Using data, trends, and predictive analytics to foresee hazards before they manifest into safety occurrences.

4.1 Each method plays a critical role in building a comprehensive safety picture and ensuring timely intervention.

6.0 HAZARD IDENTIFICATION PROCESS

6.1 Hazard identification serves as the starting point of a structured safety management process. This process includes:

a. **Reporting** of identified hazards, occurrences, or safety concerns by personnel at all levels.

b. **Collection and storage** of relevant safety data, enabling the creation of a centralized safety information repository.

c. **Analysis** of safety data to identify trends, root causes, and potential risk factors.

d. **Distribution** of safety-related findings and recommendations to relevant stakeholders to inform and enhance operational safety practices.

6.2 This cyclical process ensures that hazards are not only identified but also systematically addressed, and that continuous improvement is driven by informed feedback and shared learning across the organization

7.0 SOURCES OF HAZARD INFORMATION

There are a variety of sources of information used in the hazard identification process. Some sources are internal to the organization while other sources are external to the organization.

7.1 Internal Sources:

a. Instructor and student reports (voluntary reporting system)

b. Mandatory reporting system
c. Training incident/occurrence records
d. Safety audits and internal inspections
e. Flight and simulator data monitoring
f. Post-training debriefs and feedback sessions
g. feedback from training; and
h. investigation and follow-up of incidents.

7.2 External Sources:

a. accident/incident reports
b. Regulator safety audits
c. Industry safety bulletins and reports
d. Shared safety databases or collaborative exchanges

8.0 CONDITIONS TRIGGERING HAZARD IDENTIFICATION

Special attention to hazard identification shall be undertaken:

a. When there is an increase in safety events (e.g., near misses, rule violations)
b. Prior to introducing new equipment, procedures, or training syllabi
c. During periods of organizational change (e.g., staffing, expansion, relocation)

9.0 REPORTING AND DATA COLLECTION SYSTEMS

ATOs must establish and maintain:

a. Mandatory reporting system: Reporting of events required by regulation or internal policy
b. Voluntary reporting system: Allows any employee or trainee to report safety concerns without obligation
c. Confidential reporting mechanism: Protects identity to encourage open reporting

All reports must be documented and forwarded to the Safety Manager for analysis.

10.0 SAFETY DATA ANALYSIS AND MANAGEMENT

Collected data must be:

a. Stored securely in an electronic or physical database

b. Reviewed regularly for trends, weak signals, or emerging risks

c. Protected through restricted access and de-identification where appropriate

ATOs should use risk assessment tools (e.g., risk matrices) to evaluate the likelihood and severity of potential outcomes and prioritize safety interventions.

11.0 HAZARD ANALYSIS AND RECORDING

11.1 Hazard analysis is a three-step process:

a. Clearly identify the generic hazard

b. Breakdown the generic hazards into specific components or or components of the generic hazard.

c. Link identified hazards to potential consequences/unwanted events they can lead to (safety events)

11.2 Documented in a formal Hazard Log/Register, includes;

a. Hazard ID

b. Date identified

c. Source of report

d. Risk evaluation

e. Assigned mitigation actions

f. Responsible person

g. Status (open/closed)

12.0 DOCUMENTATION AND SAFETY KNOWLEDGE RETENTION

a. Hazard logs and related safety records form the ATO's "safety library"

b. This repository supports trend analysis, training, decision-making, and preservation of institutional knowledge

c. All data should be version-controlled, backed-up, and regularly updated

13.0 TRAINING AND AWARENESS

a. All staff, instructors, and contractors must receive initial and recurrent SMS training

b. Training must emphasize hazard awareness, reporting responsibilities, and how to recognize early safety indicators

c. ATOs must foster a non-punitive safety culture

14.0 REVIEW AND CONTINUOUS IMPROVEMENT

a. The hazard identification process must be reviewed annually or after significant events

b. Safety performance indicators (SPIs) should be used to monitor effectiveness

c. Lessons learned from internal and external safety reports must be integrated into operational procedures

Director Safety Regulation

15.0 APPENDIX

APPENDIX A – SAMPLE HAZARD LOG/REGISTER TEMPLATE

Hazard ID	Date Identified	Location	Description of Hazard	Initial Risk Rating	Control Measures	Residual Risk	Responsible Person	Status
ATO-HZ-001	2025-07-10	Flight Simulator Bay	Loose cables under instructor station	High	Secured cables, signage installed	Low	Safety Officer	Closed
ATO-HZ-003	2025-07-13	Briefing Room B	Broken projector mount could fall	Medium	Equipment removed, replacement requested	Low	Safety Officer	Open
ATO-HZ-004	2025-07-14	Runway 12/30	Bird activity reported during early morning operations	High	Bird-scaring measures, NOTAM issued	Medium	Airport Operations	Open

APPENDIX B – SAMPLE CONFIDENTIAL REPORT FORM

ATO CONFIDENTIAL SAFETY REPORT FORM

- **Date of Report:** _____
- **Name of Reporter (Optional):** _____
- **Position (Student/Instructor/Staff):** _____
- **Contact Info (Optional):** _____

1. Date/Time of Observation or Incident: _____

2. Location (e.g., Aircraft, Hangar, Simulator Room): _____

3. Describe the Safety Concern or Incident:

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4. Was anyone injured or at risk?

☐ Yes ☐ No If yes, explain: _____

5. Immediate Actions Taken (if any):

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6. Suggested Improvements or Preventive Measures:

☐ I prefer to remain anonymous

☐ I am willing to be contacted for follow-up

Signature (Optional): _____ **Date:** _____