

Advisory Circular

GUIDANCE ON RUNWAY SAFETY TEAM

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GENERAL

Advisory Circulars (ACs) are issued by the Director-General of Civil Aviation (DGCA) from time to time to provide practical guidance or certainty in respect of the statutory requirements for aviation safety. ACs contain information about standards, practices and procedures acceptable to CAAS. An AC may be used, in accordance with section 11 of the Air Navigation Act 1966 (ANA), to demonstrate compliance with a statutory requirement. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.

PURPOSE

This AC provides the guidance on the formation of a runway safety team (RST) and elements that should be included in a runway safety action plan (RSAP).

APPLICABILITY

This AC is applicable for an operator who intends to or holds an aerodrome certificate.

RELATED REGULATIONS

This AC relates specifically to Regulation 40 in the Air Navigation (139 – Aerodromes) Regulations 2023 (ANR-139).

RELATED ADVISORY CIRCULARS

- AC 139-2-1 Guidance on aerodrome manual and heliport manual

CANCELLATION

This is the first AC issued on the subject.

EFFECTIVE DATE

This AC is effective from 1 March 2023.

OTHER REFERENCES

- ICAO Annex 14, Vol. I, Aerodrome Design and Operations
- ICAO Runway safety team handbook
- ICAO Manual on the prevention of runway incursions (Doc 9870)

- ICAO Safety management manual (Doc 9859)
- ICAO PANS Aerodromes (Doc 9981)
- European action plan for the prevention of runway incursions
- European action plan for the prevention of runway excursions
- ALPA white paper – runway incursions
- Transport Canada – runway incursions
- FAA 7050.1B - Runway safety program with Change 1 and 2
- FAA National runway safety plan 2021-2023

1 INTRODUCTION

- 1.1 Regulation 40 states that a certified operator of an aerodrome (also known as an aerodrome operator) must —
- (a) form a runway safety team to ensure the safety of runway operations at the aerodrome, the composition of which must include representatives from the persons engaged in any operations at the aerodrome; and
 - (b) together with the runway safety team, establish and implement a runway safety action plan to improve the safety of runway operations at the aerodrome.
- 1.2 Runway safety is vital to the safety of aircraft operations at an aerodrome. While runway safety encompasses many areas, which include issues such as foreign object debris, aerodrome facilities, equipment, and wildlife straying onto the runway and other logistical deficiencies, prevention of runway incursions and excursions remains the focus for runway safety.

2 RUNWAY SAFETY TEAM

- 2.1 The purpose of a RST is to improve the safety of runway operations at the aerodrome. Its functions should minimally include the following:
- (a) Recommend strategies for hazard removal and mitigation of associated residual risks by considering potential runway safety issues. These strategies may be developed based on local occurrences or best practices or combined with information collected elsewhere.
 - (b) Identify, review and track runway related safety indicators to determine the effectiveness of the control measures.
 - (c) Be a platform for open communication and discussion to make inter-organisation decisions arising from runway-related safety data and performance and introduction or changes to operational procedures.
- 2.2 The RST should comprise representatives from the relevant stakeholders associated with manoeuvring area operations, which includes:
- (a) technical expert representatives from the following groups:
 - Aerodrome operator (Lead);
 - Air Navigation Service Provider (ANSP);

- Commercial Air Operators;
- Members from general aviation community (if applicable);
- Pilot Associations; and
- Military Operator (if applicable, based on joint use of airport); and

(b) where relevant, the following groups:

- Subject Matter Experts (meteorologists, ornithologists, accident investigation authority, aeronautical information service provider, etc.); and
- Members of other RSTs from other aerodromes for the purposes of sharing of information and learning.

2.3 The RST's Terms of Reference (ToR) should minimally include the following:

- (a) Objectives, scope of coverage, and expected frequency of RST meetings;
- (b) Roles and responsibilities of RST members;
- (c) Monitor runway incidents by type, severity and frequency of occurrence;
- (d) Identify, review and track runway related safety indicators to determine the effectiveness of the control measures;
- (e) Conduct of holistic inter-organisational consultation, decision-making and conflict resolution processes (e.g. deliberation on changes to runway-related procedures proposed by the aerodrome operator or ANSP, review of risk assessments related to the operations for runway safety);
- (f) Develop and implement a RSAP; and
- (g) Periodically review the effectiveness of RSAP.

2.4 The RST meetings should also cover a wide range of issues related to runway safety, such as the following:

- (a) Abnormal runway contact;
- (b) Ground collision;
- (c) Runway excursion;
- (d) Runway incursion;
- (e) Loss of control on runway strip;
- (f) Collision with obstacle(s);
- (g) Undershoot/ Overshoot;
- (h) Use of the wrong runway (runway confusion);
- (i) High speed rejected take-off;
- (j) Wildlife event (including bird strike); and
- (k) Damage from Foreign Object Debris (FOD)
- (l) Planned airport developments;
- (m) Any user concerns related to runway operations and safety; and
- (n) Air Shows and other special events.

2.5 The RST meetings should be convened at least once every 2 months to allow the timely identification and mitigation of potential runway safety issues and to drive the effective implementation of the RSAP.

- 2.6 Decisions and follow-up actions arising from the RST meetings should be documented for references.
- 2.7 The RST Set-Up Checklist found in **Appendix A** should be used when setting up the RST. The completed checklist should be reviewed and updated when carrying out periodic review of the RST. The RST Set-Up Checklist acts as a guide to identify gaps in the system that may hinder the RST from achieving their goal of improving runway safety.

3 RUNWAY SAFETY ACTION PLAN

- 3.1 The aerodrome operator, together with the RST, is to establish and implement a RSAP to improve the safety of runway operations at the aerodrome.
- 3.2 The RSAP should consist of a list of runway safety priority areas, the respective strategies and initiatives addressing the priority areas, and the identified stakeholders leading the initiatives. A sample template can be found in **Appendix B**. The RSAP should be a live document which is regularly reviewed and updated.
- 3.3 In developing the RSAP priority areas, the RST should consider the following:
- (a) Hazard identification and risk assessment;
 - The RST should leverage on hazards identified from the RST members' organisational safety management system (SMS)
 - (b) Data collection and analysis for runway safety;
 - Many lessons can be learnt by analysing previous incidents and accidents, both local and overseas. It is essential that a comprehensive analysis of data is carried out to identify trends and hotspots, causal factors and develop effective risk reduction strategies to prevent a similar event from occurring again.
- 3.4 After identifying the priority areas, the RST should develop strategies to address these areas. These could include:
- (a) Compliance with relevant regulations;
 - (b) Information management and communication;
 - (c) Movement on manoeuvring areas; and
 - (d) Use of technology (including studying the feasibility of implementation and review of currently implemented technology).
- 3.5 For each of these strategies, specific initiatives should be developed or included. The RST member(s) leading the initiatives should also be identified. Some examples of initiatives include:
- (a) Development of standard operating procedures (SOP) for the runway (e.g. runway entry and exit procedures, airside works procedures, standardised radio telephony (RT) phraseology);

- (b) Training of personnel (e.g. airfield driving, operations on runways, and on other RSAP initiatives);
- (c) Establishment of communication/ feedback channels;
- (d) Inspection and enforcement framework;
- (e) Review of lessons learnt/ best practices; and
- (f) Safety promotion activities (e.g. safety awareness campaigns).

APPENDIX A: RST SET-UP CHECKLIST

Item	Question	Response	Comments
1. Hazard Identification			
1.1	Does the RST have a formal safety data collection and processing system for documenting operational hazards?	Yes / No	
1.2	Do all RST members contribute to the formal safety data collection and processing system by sharing identified operational hazards?	Yes / No	
1.3	Does the RST define and document specific consequences for the operational hazards?	Yes / No	
2. Safety Risk Management			
2.1	Does the RST have a formal process to manage the operational risk?	Yes / No	
2.2	As part of the risk management process, are the consequences of the operational hazards assessed in terms of probability and severity?	Yes / No	
2.3	Is there a formalised process to determine the level of risk the RST is willing to accept?	Yes / No	
2.4	Does the RST develop risk mitigation strategies to control the level of risk within the operational environment?	Yes / No	
2.5	Is there a formalised process for the RST to make recommendations to applicable stakeholders?	Yes / No	
2.6	Is there a formalised process to document the decisions made by the RST during the risk management process?	Yes / No	
2.7	Are the decisions made by the RST periodically reviewed to determine if the desired effect was achieved by their mitigations/recommendations?	Yes / No	
3. Communication			
3.1	Does the RST have a formal process to communicate with applicable stakeholders?	Yes / No	
3.2	Does the RST periodically provide runway safety material to key frontline employees?	Yes / No	
3.3	Does the RST participate in information sharing activities with other RSTs?	Yes / No	
3.4	Does the RST solicit safety-related information from all airport users via common links embedded within websites of the RST participating organisations?	Yes / No	
4. Continuous Improvement			

Item	Question	Response	Comments
4.1	Does the RST have a formal process to continuously improve their processes & products?	Yes / No	
4.2	Does the RST engage in formal, periodic reviews of their programme to ensure they are improving runway safety?	Yes / No	
4.3	Are the results of the continuous improvement programme documented?	Yes / No	

APPENDIX B: SAMPLE TEMPLATE OF A RSAP

PRIORITY AREA: Runway Incursion Prevention				
Strategy	A	Compliance with regulations		
<i>Initiatives</i>	<i>A1</i>	<i>Review aerodrome infrastructure, facilities, and procedures to ensure compliance with aerodrome regulations</i>	<i>Led by:</i>	<i>Timeline:</i>
	<i>A2</i>	<i>Review radio telephony phraseology, practices and procedures relating to runway operations to ensure compliance with ATS regulations</i>	<i>Led by:</i>	<i>Timeline:</i>

Strategy	B	Movement on manoeuvring areas		
<i>Initiatives</i>	<i>B1</i>	<i>Licensing of airside drivers</i>	<i>Led by:</i>	<i>Timeline:</i>
	<i>B2</i>	<i>Develop and implement SOPs for runway entry and exit for FOD retrieval</i>	<i>Led by:</i>	<i>Timeline:</i>
	<i>B3</i>	<i>Inspection and enforcement of airside driving rules</i>	<i>Led by:</i>	<i>Timeline:</i>

Strategy	C	...		
<i>Initiatives</i>	<i>C1</i>
	<i>C2</i>
