



Session 6

Introduction to Doc 10084: Risk Assessment
Manual for Civil Aircraft Operations Over or Near
Conflict Zones

SESSION 6

OUTLINE

AIM

To provide an overview of ICAO's Doc 10084: Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones

MOTIVATION

To better understand how Doc 10084 can be useful in providing guidance for conflict zone risk assessment and mitigation

OUTLINE

- What is Doc 10084?
- Table of content
- Overview of each chapter
- Discussion



Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084)

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What

- Guidance to manage the risk during episodes of heightened military tension, or when a conflict break
- Methodology aligned with that in ICAO's Risk Context Statement (Doc 10108, Restricted)
- Guidance for airspace closures
- NOTAM standardized format to communicate relevant information

Where

- Available to States and Stakeholders for downloading on ICAO-NET ([ICAO-NET Home](#))

Objective

- Making available up-to-date and current information that helps States, and all involved stakeholders, manage the risk arising from flying over or near conflict zones

Doc 10084 revision process

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Promotion and best practices collection

Regional Awareness Seminars
Security Week 2024

2023

3rd Edition

Revised jointly by ICAO safety and security experts
Published on ICAO website
Security Week 2023, side event
Promotional video

2024

2025

Promotion, best practices collection and revision

Regional Awareness Seminars,
ICAO and safety and security
expert work on revision

2026

4th Edition

Edition available at the end
of 2026

Key updated to the 3rd Edition

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01

Glossary of terms

amendments to the manual's terminology and definitions

02

Roles and responsibilities

explicit roles and methods through which crucial decision-informing communication

03

Risk Assessment Guidance

enhancement of guidance designed to carry out risk assessments in a logical, consistent and clear manner



04

Risk mitigation inventory

tool for stakeholders looking to build a stronger posture regarding conflict zone risk mitigation

05

Closing airspace

criteria and recommendations for closing airspace when operators are over or near a conflict zone

06

Reassessment of changing risk levels

monitoring criteria to support States' and aircraft operator's risk assessment and decision-making processes

Key elements of future updates - Doc 10084

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WHAT IS IN DOC 10084

1

Introduction

2

Risks to civil aircraft from operations over or near conflict zones

3

Roles of parties concerned and promulgation of information

4

Conducting security risk assessment for flying over or near conflict zones

5

Conducting conflict zone airspace closures

6

Reassessing post-conflict zone airspace

A

Security risk assessment factors, information, sources, methodology and concept

B

Example of a safety risk assessment methodology

C

Differences between the guidance provided by States in the risk assessment processes

D

Examples of how organizations or States share information between States, aircraft operators, and service providers for exchange and promulgation of information

E

Risk mitigation inventory for flying over or near conflict zones

F

Compendium of guidelines for information sharing

G

Guidelines for harmonization of risk assessments and risk communication

CHAPTER 1

INTRODUCTION

CHAPTER 1

CONFLICT ZONE RELATED SARPs

Annex 6 – Operation of Aircraft

4.1.2 The operator shall ensure that a flight will not commence or continue as planned unless it has been ascertained by every reasonable means available that the airspace containing the intended route from aerodrome of departure to aerodrome of arrival, including the intended take-off, destination and en-route alternate aerodromes, can be safely used for the planned operation. When intending to operate over or near conflict zones, a risk assessment shall be conducted and appropriate risk mitigation measures taken to ensure a safe flight

Annex 11 – Air Traffic Services

2.19.3 The appropriate ATS authority shall ensure that a safety risk assessment is conducted, as soon as practicable, for activities potentially hazardous to civil aircraft and that appropriate risk mitigation measures are implemented

Note 1.— Such risk mitigation measures may include, but would not be limited to, airspace restriction or temporary withdrawal of established ATS routes or portions thereof

Note 2.— Guidance on safety risk management can be found in the Safety Management Manual (SMM) (Doc 9859)

2.19.3.1 States shall establish procedures to enable the organization or unit conducting or identifying activities potentially hazardous to civil aircraft to contribute to the safety risk assessment in order to facilitate consideration of all relevant safety significant factors

Annex 15 – Aeronautical Information Services

6.3.2.3 A NOTAM shall be originated and issued concerning the following information:

n) conflict zones which affect air navigation (to include information that is as specific as possible regarding the nature and extent of threats of that conflict and its consequences for civil aviation)

CHAPTER 1

CONFLICT ZONE RELATED SARPs (cont.)

Annex 17 – Aviation Security

- 3.1.3 Each contracting State shall keep under constant review the level and nature of threat to civil aviation within its territory and airspace above it, and establish and implement policies and procedures to adjust relevant elements of its national civil aviation security programme accordingly, based upon a security risk assessment carried out by the relevant national authorities
- 3.1.5 Each Contracting State shall establish and implement procedures to share, as appropriate, with relevant airport operators, aircraft operators, air traffic service providers or other entities concerned, in a practical and timely manner, relevant information to assist them to conduct effective security risk assessments relating to their operations

Annex 19 – Safety Management

- 2.2 Safety risk assessment and mitigation: The service provider shall develop and maintain a process that ensures analysis, assessment and control of the safety risks associated with identified hazards

Other related guidance

Docs 8126, 8973 (Restricted), 9426, 9433, 9554, 9859, 9985, 10088, and 10108 (Restricted))

CHAPTER 2

RISKS TO CIVIL AIRCRAFT FROM OPERATIONS OVER OR NEAR CONFLICT ZONES

CHAPTER 2

THE THREATS

Man-Portable Air Defense Systems

Up to 25,000 feet



Ballistic and Cruise Missiles

Up to and above cruising altitude



Heavy Weapons and Anti-Aircraft Artillery (AAA)

Up to and above cruising altitude



Surface to Air Missile systems (SAMs)

Up to and above cruising altitude



Other aircraft: drones, fighters, formations, etc.

Up to and above cruising altitude



CHAPTER 2

THE RISKS

Capability

Presence of anti-aircraft/air defense systems, as well as the level of technical knowledge/expertise regarding the use of the system

Intent

Level of interest in attacking civil aviation

In conflict zones, the capability to target aviation assets may be high and widespread, but historically there has been little to no intent by States to target civil aircraft

CHAPTER 2

UNINTENTIONAL IMPACT



Involvement of a state sponsored entity or proxy group armed **with anti-aircraft weapons**, provided **limited training** and operating **outside the authority of a state** increases risk of unintentional impact



Although an **unintended target**, civil aviation is at **higher risk** when flying over or near conflict zones, due to potential for **misidentification**, **miscommunication** or **miscalculation**

CHAPTER 3

ROLES OF PARTIES CONCERNED AND PROMULGATION OF INFORMATION

CHAPTER 3

KEY STAKEHOLDERS

State that
manages the
airspace

Aircraft
operator

Air navigation
services
provider

State of the
Operator

CHAPTER 3

PROMULGATION OF INFORMATION

Aeronautical Information Publication (AIP)

- Information of a permanent nature as well as temporary changes of long duration

Notice to Airmen (NOTAM)

- Information concerning the establishment, condition or change in aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to flight operations

Aeronautical Information Circular (AIC)

- Notice containing information that does not qualify for the origination of a NOTAM or inclusion in the AIP, but relates to flight safety, air navigation, technical, administrative or legislative matters

Other

- Civil Aviation Directive
- Other communication means (email, call, etc.)

CHAPTER 4

CONDUCTING SECURITY RISK ASSESSMENTS FOR FLYING OVER OR NEAR CONFLICT ZONES

CHAPTER 4

RISK ASSESSMENT METHODOLOGY

Doc 10084 provides the key characteristics of conflict zone risk assessment methodology*. It does not provide a “one-size fits all” approach, rather baseline factors that should be taken into consideration

While the methodology presented is consistent with ICAO’s *Aviation Security Manual* (Doc 8973 – restricted) and ICAO’s *Aviation Security Global Risk Context Statement* (Doc 10108 – restricted), it also accounts for the specific nature of the risks posed by conflict zones

*Detailed Security Risk Assessment Methodology can be found in Appendix A, and a detailed Safety Risk Assessment Methodology in Appendix B

CHAPTER 4

RISK ASSESSMENT CYCLE

Risk assessments should be a **continuous cycle**

Carefully identified and defined **scenarios** should be the foundation of a risk assessment

Risk is identified as the level of exposure to a successful attack being carried out on a specific target, taking into account:

- The assessed threat and consequences
- An assessment of the remaining vulnerabilities after evaluating the effectiveness of the measures in place



CHAPTER 4

BRIDGING SAFETY AND SECURITY

Doc 10084 highlights the importance of bridging *safety* and *security* risk assessments in the context of conflict zone risk mitigation. Section 4.8.4 states that mitigation measures identified in the security risk assessment "can cause indirect 'spillover' issues or unintended consequences". A safety risk assessment should therefore be conducted "to identify any additional safety risks arising from these mitigations"

For example, re-routing flights or restricting airspace may result in additional traffic in other flight routes or air corridors, requiring an aircraft to operate at a higher altitude over a conflict zone, which may result in increased fuel requirement and a decrease in the aircraft payload for that flight route

CHAPTER 5

CONDUCTING CONFLICT ZONE AIRSPACE CLOSURES

CHAPTER 5

KEY ROLES

States experiencing heightened tensions/military activities

- Should ultimately consider taking precautionary steps by proactively assessing risks, identifying contingency plans and implementing adequate mitigations
- A temporary airspace closure is recommended to proactively safeguard civil aviation

Aircraft Operators

- Annex 6 requires aircraft operators to ensure the airspace containing the intended route can be safely used
- When intending to operate over or near conflict zones, a risk assessment shall be conducted, and appropriate mitigation measures taken, including avoiding the airspace temporarily

State of the Operator

- Should engage in assisting aircraft operators to evaluate the safety and security of civil aviation in the airspace relevant to the operator's intended route and endeavour to collect applicable information in a timely manner

MITIGATING RISK DURING HEIGHTENED TENSIONS

CONTINGENCY COORDINATION TEAMS

- Contingency Coordination Teams (CCTs) aim to ensure coordination and sharing of information between stakeholders and to agree on contingency arrangements and routes in case of disruption of air traffic services (due to conflict, weather, etc.)
- The CCT is a proven and effective tool in ensuring the safety of civil aviation with minimal disruption to air traffic. Several ICAO Regions, such as Asia-Pacific and the Middle East, have successfully developed and implemented CCTs on numerous occasions and their expertise on the matter serves as a model

CHAPTER 6

REASSESSING POST-CONFLICT ZONE AIRSPACE

CHAPTER 6

OVERVIEW

- Guidance on assessing conflicts as they start to de-escalate
- Establish indicators to determine when a reassessment of the mitigation measures is appropriate
- Assess de-escalation, cessation, stabilization of hostilities



DISCUSSION

QUESTION

States play a major role in decision-making processes related to conflict zones because they usually have a more extensive ability to aggregate intelligence than aircraft operators, ANSPs, and other concerned organizations

There are different models for the level of guidance provided by States, as illustrated by the figure below. Where would you say your State currently stands on this continuum?

