



Committee on Aviation Security– Topic 1

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Risk Assessment of Civil Aircraft Operations Over or Near Conflict Zones.

1. A historic threat to civil aviation.

Surface to Air Missiles (SAM) attacks on civilian aircraft are rare and generally have been inadvertent or accidental events. To date, there have been no documented cases of an intentional SAM attack to deliberately shoot down a civilian aircraft. There have been five documented occurrences where the destruction of civilian aircraft has been attributed to SAM engagements (other than MANPADS):

1. Aeroflot flight 902 (1962)
2. Iran Air flight 655 (1988)
3. Siberia Airlines flight 1812 (2001)
4. Malaysia Airlines flight 17 (2014), and
5. Ukraine International Airlines flight 752 (2020)

In three of the documented cases (2, 4 and 5), it is likely the event was unintentional, as the target was probably mistakenly identified as a military or an unmanned aircraft. According to open-source data reports, three of the known events occurred during periods of military conflict or high tension; two of the events (1 and 3) appear to have occurred during a military training exercise.

2. Global response.

In response to the downing of Malaysia Airlines flight 17 (MH17) on 17 July 2014, the International Civil Aviation Organization (ICAO), Airports Council International (ACI), the Civil Air Navigation Services Organisation (CANSO), and the International Air Transport Association (IATA) issued a joint statement on 29 July 2014 expressing strong condemnation of the use of weapons against a civil aircraft, and support for establishing a senior-level task force to address issues related to the safety and security of civil aircraft in airspace flying over or near conflict zones.

In 2014, ICAO established the Task Force on Risks to Civil Aviation arising from Conflict Zones (TF RCZ), which developed a work programme with twelve objectives, including the establishment of a centralized system which would consolidate the available information related to conflict zones. The Conflict Zone Information Repository (CZIR), a tool to disseminate information related to risks to civil aviation arising from conflict zones, was launched in 2015.

On 13 October 2015, the Dutch Safety Board published the MH17 Final Report of the accident investigation with safety recommendations to ICAO, IATA, ICAO Member States, and operators.

A guidance document on the assessment and management of the risk for civil aviation over or near conflict zones was developed, the first edition of this document, initially drafted under the title Civil Aircraft Operations Over Conflict Zones (Restricted), was published in November 2016 and reissued in April 2017 as Doc 10084 (Restricted).

During its 209th Session in 2016, the ICAO Council noted that there had been significant progress on the part of States and industry in developing systems, separate from the CZIR, to share information concerning risks associated with operations over or near conflict zones. In considering these developments and noting the decline in the number of postings in the CZIR, the ICAO Council requested a comprehensive study be undertaken on the availability of tools and mechanisms developed by external entities to share risk-based information. As part of the study, ICAO, in partnership with CANSO, IATA and the International Business Aviation Council (IBAC), launched a survey to determine the availability and adequacy of information related to risks to civil aviation provided by entities external to ICAO. The survey was held from December 2016 to January 2017.

The analysis of replies provided by aircraft operators and air navigation services providers (ANSPs) revealed that the appropriate information on risks to civil aviation was effectively being made available outside of the CZIR by both States and industry. The study also recognized a significant decline in the number of States making their information related to risks to civil aviation over or near conflict zones available on the CZIR and showed that such information was mostly disseminated through Notices to Airmen (NOTAMs), aeronautical information circulars (AIC), and aeronautical information publication (AIP) supplements. However, the responders to the enquiry revealed a desire to standardize the format in which risk information was made available and a desire to develop solutions allowing for timely and automated access to such information.

Considering the results of the survey and the decline in the number of postings in the CZIR, ICAO noted that the CZIR had ceased to function as a means to gather and disseminate specific risk-based information concerning operations over or near conflict zones, and a decision was made to discontinue the CZIR and to transition the CZIR into a library of links on the ICAO public website to States' own aeronautical information related to risks to civil aircraft operations over or near conflict zones.

In November 2017, ICAO decided to discontinue the ICAO web-library of risk-based information and to devote increasing efforts to provide training and capacity-building initiatives to assist States to further develop their risk management capabilities as well as multilateral arrangements for the sharing of risk information.

Doc 10084 was further amended in the second edition to expand the advice for States and operators regarding the risks from surface-to-air missiles (SAMs) and key risk factors to be considered for their own risk assessments. The second edition of Doc 10084 was published in 2018 under the new name Risk Assessment Manual for Civil Aircraft Operations over or near Conflict Zones, in line with its revised content. The enhanced guidance material in the manual is based on existing ICAO provisions and industry practices related to:

- a) responsibilities of States, operators, and other service providers within States,
- b) significant regulatory developments and existing practices since 2014,
- c) consolidated source material for conducting risk assessments,
- d) outline of risk information sharing mechanisms,
- e) guidance to States and operators on what to do with threat and risk information, and
- f) existing mechanisms for State-to-operator and/or State-to-State sharing of information.

To make the guidance material in the second and future editions of Doc 10084 more accessible for States, aircraft operators, ANSPs, and other entities concerned, and considering that the revised material does not contain any sensitive security information, ICAO downgraded the document's classification from restricted to non-restricted.

3. Regional, national and industry initiatives.

In response to the downing of Ukraine International Airlines flight 752 (PS752) on 8 January 2020, Canada established the Safer Skies Initiative whose objective is to improve the safety and security of air travel worldwide by addressing gaps in the way the civil aviation sector deals with conflict zones.

ICAO welcomed the Safer Skies Initiative and launched a comprehensive gap analysis of current airspace management and conflict zone Standards and Recommended Practices (SARPs) as well as related guidance material, vis-à-vis work completed post-MH17.

In 2021, ICAO concluded its gap analysis highlighting the progress of current airspace management and conflict zone SARPs as well as related guidance material which included:

- a) the applicability of relevant amendments of Annex 6, Annex 11, and Annex 15 on 5 November 2020.
- b) the publication of the first edition of the Manual on Civil-Military Cooperation in Air Traffic Management (Doc 10088) in January 2021, and
- c) the ongoing work on the Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations (Doc 9554).

On 24 June 2021, the Dutch Safety Board published its final report on Safe flight routes - Responses to escalating conflicts. This report synthesizes the findings of the Dutch Safety Boards' previous MH17 investigations (in 2015 and follow-up investigation of the safety recommendations in 2019) and is complemented with new findings on the current practice of airspace management, information sharing and decision-making in the context of flying over or near conflict zones. The report contains two international safety recommendations: addressing the development and application of risk assessment methods based on the precautionary principle for civil aviation operations over or near conflict zones, and the development of guiding principles related to airspace closure.

In parallel to these efforts, several global and regional initiatives were established, strengthening baseline and rapid information sharing practices within the civil aviation community, enhancing effective airspace risk management including by harmonizing airspace

notification language, creating a mitigation strategy inventory, developing guiding principles related to airspace closure, and exploring the precautionary approach. International groups and organisations driving this important work include European institutions, such as the European Union (EU) and its Aviation Safety Agency (EASA), the Expert Group on Risk Information overflying Conflict Zones (EGRICZ), the Safer Skies Consultative Committee (SSCC) and the International Air Transport Association (IATA)

The third edition of Doc 10084 follows the outcome of the 41st Session of the ICAO Assembly in 2022, that supported the proposal to prioritize the review of Doc 10084, taking into consideration the work conducted by international and regional groups and organizations.

While significant advancements have been made since 2014, considerable work remains to further improve the safety and security of civil aviation operations over or near conflict zones.

Properly mitigating the risks conflict zones pose to civil aviation operations and making our skies safer requires global collaboration. The different regional, national or industry initiatives directly contribute to this goal; however, they require global commitment to be effective. By prioritizing the review of Doc 10084, Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones encouraging States and Organizations to participate in regional and global information-sharing initiatives, ICAO provided the necessary leadership to ensure that the global civil aviation community proactively builds on the progress made in risk mitigation.

ICAO, in coordination with the SSCC, delivers Regional Awareness Workshops to help States get familiar with Doc 10084 and better assess the risks.

4. Analysis and proposal for improvement.

Considering the history of downing of civilian aircrafts by Surface to Air Missiles over or near conflict zones and the increased geopolitical instability around the world, you are invited to reflect on the respective roles of the United Nations Security Council, ICAO, States and Aircraft operators on mitigating and managing the risk posed by conflict zones to civil aviation operations.

You will make recommendations to the Council, in the perspective of the 42nd ICAO Assembly to encourage ICAO, States and industry to address the matter and take relevant measures to prevent recurrence of such acts.