



DUTCH
SAFETY BOARD

Investigation in short

Flying over conflict zones

Follow-up recommendations MH17 Crash



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Has flying become safer?

The Dutch Safety Board has concluded that stakeholders are more aware of the risks related to flying over conflict zones since crash of flight MH17. The issue has been incorporated into the international Standards and Recommended Practices, manuals and management systems of the aviation industry. In addition, more and generally better information on conflict zones is available.

Airlines are taking a more structured approach to analysing the risks and uncertainties, scaling up to a higher risk level at an earlier stage. Some airlines state that they now decide more quickly to refrain from overflying specific areas if no clear information relating to such areas is available.

This investigation cannot be used to demonstrate directly that flying has become safer. It does show, however, that a range of measures have been implemented, and that States and airlines around the world are aware of the issue at stake. Stakeholders no longer assume that the airspace above a conflict zone is safe.



Introduction

On 17 July 2014, Malaysia Airlines flight MH17 crashed in eastern Ukraine, resulting in 298 fatalities. The Dutch Safety Board investigated the crash and published its final report on 13 October 2015. The investigation showed that the crash was caused by the detonation of a 9N314M-model warhead carried on a 9M38-series of missiles, launched from a Buk surface-to-air missile system. The missile was launched from the eastern part of Ukraine, where there was an ongoing armed conflict.

The Dutch Safety Board investigated not only the cause of the crash but also why the aircraft was flying over a conflict zone. The Dutch Safety Board studied the decision-making process for overflying conflict zones and formulated eleven recommendations to enable optimum risk management on a global scale. These recommendations were aimed at the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and all States and airlines - cf text frame.

Early in 2018, the Board initiated an investigation to determine what changes the stakeholders had implemented since the crash of flight MH17 in order to manage the risks associated with overflying conflict zones more effectively. The present follow-up investigation focuses exclusively on whether and to what extent the recommendations relating to overflying conflict zones have been implemented. It does not concern the cause and circumstances of the crash of flight MH17.

Stakeholders

- The International Civil Aviation Organization (ICAO) is a body of the United Nations. ICAO establishes the international framework for civil aviation. The principles are laid down in the Chicago Convention, which was ratified by 192 Member States.
- The International Air Transport Association (IATA) is the global trade association of the airlines. IATA has some 290 members in 120 countries that jointly represent approximately 80% of all air traffic worldwide.
- The European Commission's responsibilities include proposing new legislation, managing the EU budget and enforcing EU law (in conjunction with the Court of Justice). There are several European regulations relating to aviation safety.
- The European Aviation Safety Agency (EASA) is an EU agency specialising in aviation safety.
- States are responsible for the safety and security of their national airspace. They manage their own airspace and can close part or all of it to civil aviation. There are also States that provide information or advice or impose requirements to airlines established within their territory, with regard to overflying conflict zones in other States.
- Airlines themselves have the final say on which route they will fly to reach their destination. To this end, they gather information about potential risks, restrictions and bans, as well as looking at practical matters, which include the weather, time and distance.

In the course of its investigation, the Dutch Safety Board has been in contact with the following stakeholders: ICAO, IATA, the European Commission, EASA, as well as stakeholders in the Netherlands, such as the Ministry of Infrastructure and Water Management and the Dutch operators. Furthermore, the Dutch Safety Board sent a survey to a number of countries and airlines.

Developments since the MH17 crash

International

ICAO

- Amend Standards and Recommended Practices to accommodate overflight or conflict zones (partially complete)
- Risk assessment manual for overflying conflict zones

IATA

- Audit directives supplement to incorporate overflight of conflict zones
- Security management system manual devoting attention to overflight of conflict zones.

Regional

EU-wide

- European Risk assessments
- Publication of 'Conflict Zone Information Bulletins'
- Network for fast information sharing

Airlines

- More active threat information gathering
- Refining conflict zone assessments

National

States

- NOTAMS and warnings for conflict zones in other countries
- Sharing threat information

Netherlands

- Convenant an periodic meetings to share threat information
- ICAO support in amending Standards and Recommended Practices for overflying conflict zones.

Initiatives by international organizations

Since the crash of flight MH17, several international organizations have taken initiatives to reduce the risk of similar disasters in the future. For instance, ICAO established the *Taskforce on Risks to Civil Aviation arising from Conflict Zones* to discuss the issue of overflying conflict zones and to examine what global measures can be taken. ICAO is also working to amend a number of Standards and Recommended Practices to manage the risks of overflying conflicts zones more effectively. ICAO has 192 member states, each with their own individual views and interests, meaning this is a time-consuming process. Part of the amendments have been implemented, but it is estimated that the process will not be concluded until 2020. The amendments contribute to States and airlines devoting more thought to overflying conflict zones, and focus on sharing threat information and the conduct of risk assessments. In addition, a manual has been created devoted specifically to the risks of overflying conflict zones. This helps States and airlines perform risk assessments. The manual has been

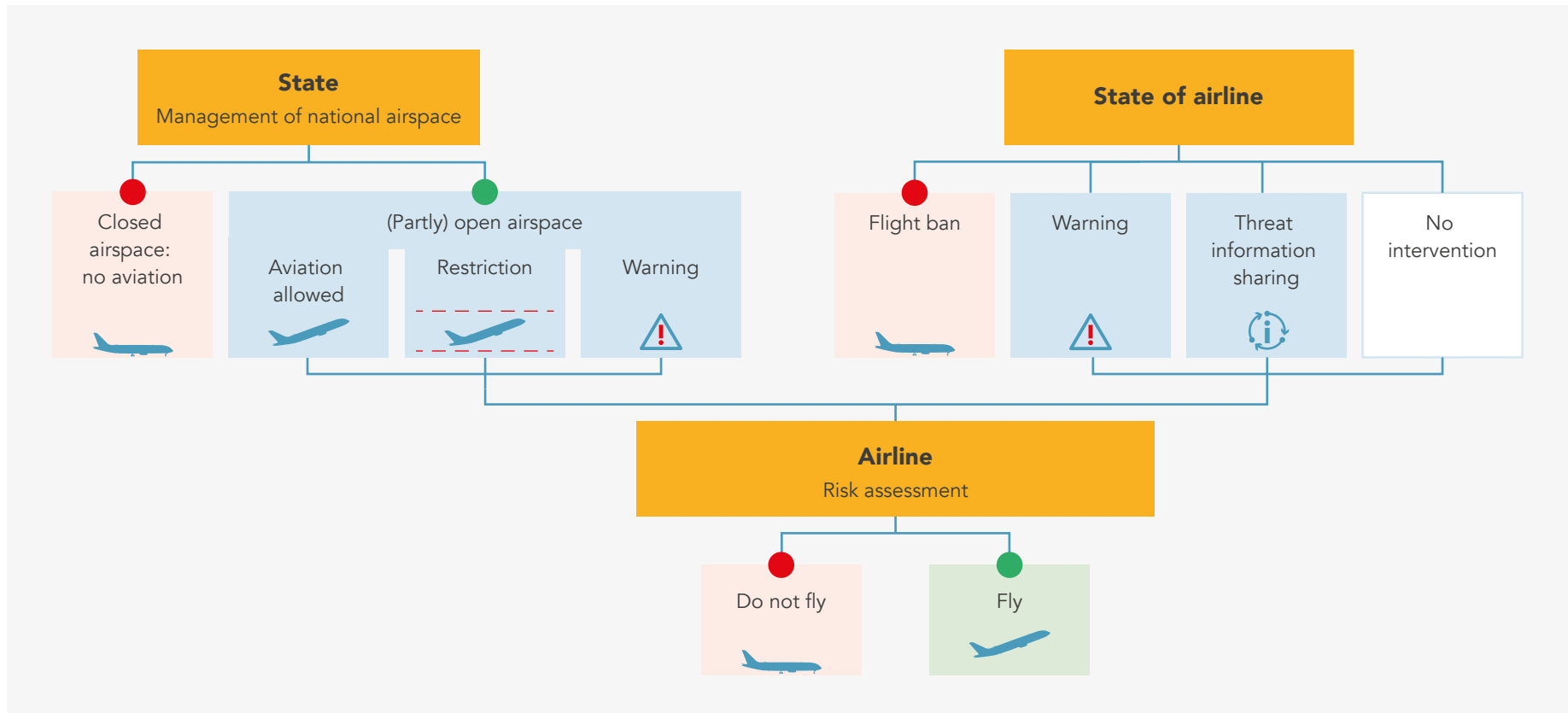
published on ICAO's website and is therefore easily accessible. Moreover, ICAO has specifically designated the risks of overflying conflict zones one of the Global Aviation Safety Plan's priorities. Incorporating the issue in such a plan is important because it helps determine the activities on which ICAO will focus in years to come.

After the crash of flight MH17, IATA expanded its risk assessment and audit guidelines. Overflying conflict zones are now specifically addressed as possible risk and incorporated in the by IATA prescribed management systems. IATA has also included the issue in a new manual on *Security Management Systems*, enabling airlines to incorporate that.

Furthermore, the European Commission and EASA have made progress on sharing information on threats. While the Dutch Safety Board did not issue any recommendations to these bodies, the European Union has established the *Common EU Risk Assessment*. In concrete terms, this means that quarterly meetings with

representatives from EU Member States and relevant EU bodies are held. These meetings are devoted to examining information from intelligence services to determine the risks of overflying conflict zones. If the participants classify the risk to civil aviation as high in a specific area, EASA publishes this information in a *Conflict Zone Information Bulletin*. The bulletins are published on the EASA website and are therefore accessible to States, airlines and passengers worldwide. If urgent information is at stake, EASA works with 'rapid alerts' that can be distributed quickly through a special network of representatives of national aviation authorities within the EU.

Parties with influence on overflying conflict zones



Airspace Management

Every State manages its own airspace. States are sovereign in this respect, which means that they decide autonomously on allowing aircraft access to their airspace or impose restrictions on its use. For instance, they can decide the available routes and minimum altitudes, or close their airspace altogether.

In the *MH17 Crash* report, the Dutch Safety Board observed that when a State is dealing with armed conflict within its territory, it may be difficult for that State to ensure the safety of its airspace. This is still the case. Only rarely do States close their airspace due to armed conflict. As such, it is important for States to receive more stimuli and support in such situations in order for them to be able to take this responsibility. The Dutch Safety Board recommended the following improvements:

- The Chicago Convention and the underlying Standards and Recommended Practices must clarify the responsibility of States with regard to the safety of their airspace in such a way that it is clear in which cases the airspace must be closed.

- The ICAO must play an active role in urging States facing an armed conflict within their territory to close or restrict their airspace in line with tightened agreements and in a timely manner.

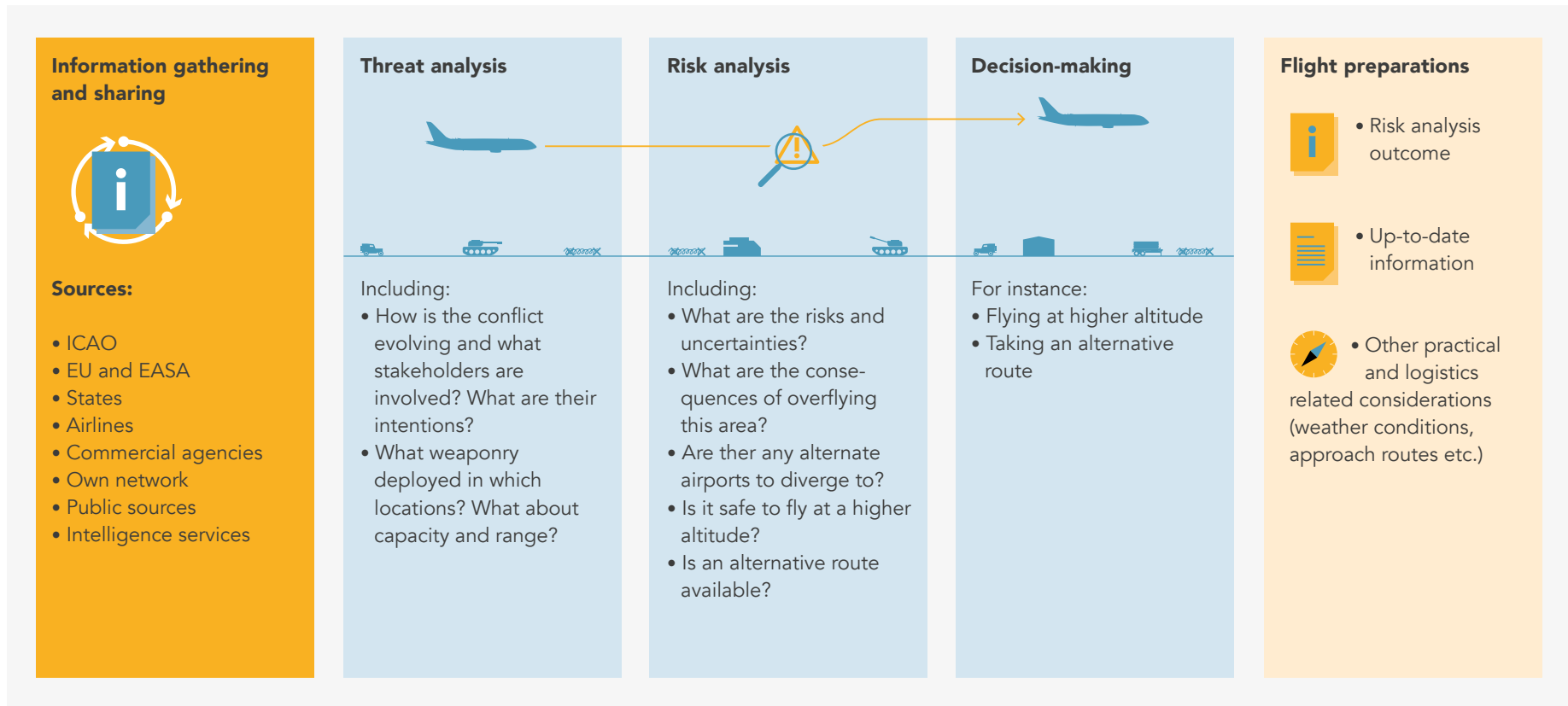
While ICAO is in a position to urge States to ensure the safety of their airspace and provide relevant support, this is not what happens in actual practice. The international organization considers such a proactive role inappropriate with an eye to the sovereignty of States. The follow-up investigation shows that the ICAO has refined some of its standards, clarifying the role of States. However, there are no unambiguous requirements specifying when States must close their airspace. For the time being, ICAO believes there is no reason to review the Chicago Convention in this respect. However, the organization will reassess whether this is necessary at a later stage.

Threat information and risk assessment

Airlines themselves must always assess the risks of overflying conflict zones and reach a well-considered decision on whether they wish to do so. Certain countries,

including the United States, the United Kingdom, Germany, and France, issue recommendations or obligations to their airlines on overflying specific conflict zones. Such recommendations and bans are published, allowing other airlines to include the information in their risk assessments.

Airline risk assessment process



Airlines have stated that they have become more aware of the risks of overflying conflict zones since the crash of flight MH17. Many airlines now put forth greater effort to gather adequate information on conflict zones that are relevant to their operations. Airlines have also been sharing more information with each other since the crash. There is no organized and structural method for sharing information across airlines. For the time being, information is shared primarily on an ad-hoc basis via informal networks and contacts.

Warnings issued by States and the EASA bulletins about high-risk countries are useful sources of information for airlines around the world. However, airlines express concern about the depth of the information. The background, context and considerations that lead to a high-risk indication are not shared, even though this information may be pertinent to the decision-making process. The airlines are also concerned about having quick access to information in the event of escalating and/or new conflicts.

The Dutch Safety Board has concluded that there is no general and unambiguous view with regard to how airlines perform risk assessments on overflying conflict zones. The method, information position, country of origin and extent to which risks are accepted vary between airlines. Moreover, the guidelines (whether recommended or mandatory) issued by the authorities may vary by nation. This means that the decision reached by airlines may also vary, ranging from a difference in the overflight altitude to the actual decision whether or not to overfly specific areas.

Changes in the Netherlands

The Netherlands has established an agreement to ensure that the government and Dutch airlines can share threat information with one another. There is a special expert group that meets periodically to discuss non-public threat information. The consultation has led to good contacts, which ensures that information can be shared rapidly even in the event of acute threats. Furthermore, Dutch airlines can turn to a dedicated point of contact established by the Dutch intelligence services if they have specific questions.

Transparency with regard to flight routes

It is important for airlines to be transparent about their chosen flight routes. In this way, they demonstrate that they devote adequate attention to the risks relating to overflying conflict zones. However, airlines publish little to no information about their chosen flight routes currently, and IATA has not taken an active role in establishing a form of accountability either. The Dutch Safety Board is aware that publishing details on flight routes does not come easy because of the sensitivity of the information and the complexity of considerations. This notwithstanding, the airlines can search for a way to provide accountability for decisions made, for instance by explaining their reasons for avoiding certain areas.

The follow-up investigation reveals that important steps have been taken in recent years to control the risks associated with overflying conflict zones more effectively. It is important that the amendments already implemented are perpetuated and that parties take the announced follow-up steps.

Vital to this is the willingness of parties to actively inform each other about threats and potential threats, something that does not come naturally in every region of the world.

More information

The full report 'Flying over conflict zones - Follow-up recommendations *MH17* Crash investigation' is available on www.safetyboard.nl

The Dutch Safety Board in three questions

1

What does the Dutch Safety Board do?

Living safely, working safely, safety. It seems obvious, but safety cannot be guaranteed. Despite all knowledge and technology, serious accidents happen and disasters sometimes occur. By carrying out investigations and drawing lessons from them, safety can be improved.

In the Netherlands the Dutch Safety Board investigates incidents, safety issues and unsafe situations which develop gradually. The objective of these investigations is to improve safety, to learn and to issue recommendations to parties involved.

2

What is the Dutch Safety Board?

The Dutch Safety Board is independent of the Dutch government and other parties and decides for itself which occurrences and topics will be investigated.

The Dutch Safety Board is entitled to carry out investigations in virtually all areas. In addition to incidents in aviation, on the railways, in shipping and in the (petro-)chemical industry, the Board also investigates occurrences in the construction sector and healthcare, for example, as well as military incidents involving the armed forces.

3

Who works at the Dutch Safety Board?

The Board consists of three permanent board members under the chairmanship of Mr Tjibbe Joustra. The board members are the public face of the Dutch Safety Board. They have extensive knowledge of safety issues. They also have extensive administrative and social experience in various roles. The Safety Board's bureau has around 70 staff, two-thirds of whom are investigators.

Visit the website for more information www.safetyboard.nl.

