

The Downing of Ukraine International Airlines Flight 752

January 8, 2020

UIA Flight 752

Overview

- On January 8, 2020 Ukraine International Airlines Flight 752 departed Tehran's Ayatollah Khomeini International Airport (IKA) bound for Kyiv
- Shortly after take off, the flight was hit by two surface to air missiles launched by members of the Iranian Islamic Revolutionary Guard (IRGC)
- All 176 passengers and crew died on the flight including 55 Canadian citizens and 30 permanent residents of Canada

UJA Flight 752

Rising Military Tensions

- Tensions between US and Iran date back at least as far as the overthrow of the Shah
- For most part, tensions involve acts carried out by proxies for both states
- Tensions started to escalate again in 2018
- April 2018-US Government designated the IRGC as a foreign terrorist organization
- May 2018-The US government officially withdrew from the 2015 Joint Comprehensive Plan of Action (JCPOA) nuclear agreement

Key Events in 2019

- May/June 2019- oil tankers from Saudi Arabia, the UAE and Norway were attacked-the US blames the Iranian Revolutionary Guard
- June 20, 2019-Iran shoots down an unmanned American Drone over the Strait of Hormuz. Iran says violated its airspace
- July 18, 2019-US forces down an Iranian drone patrolling the Strait of Hormuz
- September 2019-Houthis in Yemen launch a missile attack against Saudi Arabian energy facilities.

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Key Events in 2019

- December 27, 2019-Iranian proxies launch an attack in Iraq killing an American contractor and wounding four US troops
- December 29, 2019-the US launches airstrikes on targets in Iraq and Syria against the Iranian backed group-Kata'ib Hezbollah (Hezbollah)
- December 31, 2019- supporters of Hezbollah and Shia militias surround and enter the US embassy in Baghdad. Outer buildings were set on fire. Militia withdrew upon the promise that the Iraqi parliament would hold a vote to expel US forces from Iraq.

Events of January 2020

- January 3, 2020, the United States launches a targeted airstrike killing Qods Force commander Major General Qasem Soleimani and Hezbollah leader Abu Mahdi Al-Muhandis.
- General Soleimani was arguably the second most powerful person in Iran.
- Iran's Supreme Leader threatens to retaliate for the killings.

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Donald J. Trump @realDonaldTrump · Jan 4, 2020

Iran is talking very boldly about targeting certain USA assets as revenge for our ridding the world of their terrorist leader who had just killed an American, & badly wounded many others, not to mention all of the people he had killed over his lifetime, including recently....

27K 46K 204K

Donald J. Trump @realDonaldTrump

....hundreds of Iranian protesters. He was already attacking our Embassy, and preparing for additional hits in other locations. Iran has been nothing but problems for many years. Let this serve as a **WARNING** that if Iran strikes any Americans, or American assets, we have.....

2:52 PM · Jan 4, 2020

Donald J. Trump @realDonaldTrump · Jan 4, 2020

....targeted 52 Iranian sites (representing the 52 American hostages taken by Iran many years ago), some at a very high level & important to Iran & the Iranian culture, and those targets, and Iran itself, **WILL BE HIT VERY FAST AND VERY HARD.** The USA wants no more threats!

48K 67K 184K

Donald J. Trump @realDonaldTrump

These Media Posts will serve as notification to the United States Congress that should Iran strike any U.S. person or target, the United States will quickly & fully strike back, & perhaps in a disproportionate manner. Such legal notice is not required, but is given nevertheless!

12:25 PM · Jan 5, 2020

50.7K Retweets 29.6K Quotes 271.6K Likes 1,254 Bookmarks

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6:54 p.m. ET, January 7, 2020

10 rockets hit Al Asad Air Base in Iraq

From CNN's Hamdi Alkhshali

At least 10 rockets hit Al Asad Air Base in western Iraq where US forces are based, Qatri al-Obeidi, one of the Sunni commanders of the Paramilitary Forces in the nearby town of al-Baghdadi, told CNN.

The commander said the shelling has stopped for now.

Al Asad Air Base is about 124 miles west of Baghdad.

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Morning of January 8, 2020

- Iran launches ballistic missile attack on US forces at two bases in Iraq in the early morning hours of January 8, 2020 (local time)
- Missiles transit through busy commercial airspace without warning
- Iran places its military and air defence systems on high alert in anticipation of US counterattack
- Flight 752 departs at 6:12 am local time, struck by two missiles shortly after takeoff



Figure 2: Global News - Parking lot camera showing first missile launch



Figure 3: Global News - Parking lot camera showing second missile launch



Figure 4: Global News - Parking lot camera showing aircraft on fire



Figure 5: *The New York Times* - Ground security camera footage recording ground impact of aircraft

UIA Flight 752

Legal Action in Canada

- 101 individual claims and a class action filed against UIA in Superior Court of Ontario in Toronto
- Cases proceeded to trial under common case management on the issue of liability under Montreal Convention
- Trial conducted as a hybrid trial – all direct evidence filed in form of affidavits
- Case proceeded to trial within 4 years of the downing
- Trial lasted 17 days before judge alone

Key Issues in the Case

- Passenger Rights governed by Montreal Convention 1999
- Lessons of MH 17
- Industry Regulations, Standards and Practices for operations in conflict zones
- Adequacy of risk assessments conducted by UIA
- Conduct of other airlines in region

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Legal Context

- The rights of the passengers against the airline are governed by Montreal Convention of 1999
- Convention applies to international carriage of passengers by air
- Sets out rules on jurisdiction and liability but not measure of damages
- Courts of Canada have jurisdiction on the basis of residency of passengers and/or place of final destination (Toronto)

Montreal Convention 1999 – Article 21

Article 21 — Compensation in Case of Death or Injury of Passengers

1. For damages arising under paragraph 1 of Article 17 not exceeding 100 000 Special Drawing Rights for each passenger, the carrier shall not be able to exclude or limit its liability.
2. The carrier shall not be liable for damages arising under paragraph 1 of Article 17 to the extent that they exceed for each passenger 100 000 Special Drawing Rights if the carrier proves that:
 - (a) such damage was not due to the negligence or other wrongful act or omission of the carrier or its servants or agents; or
 - (b) such damage was solely due to the negligence or other wrongful act or omission of a third party.

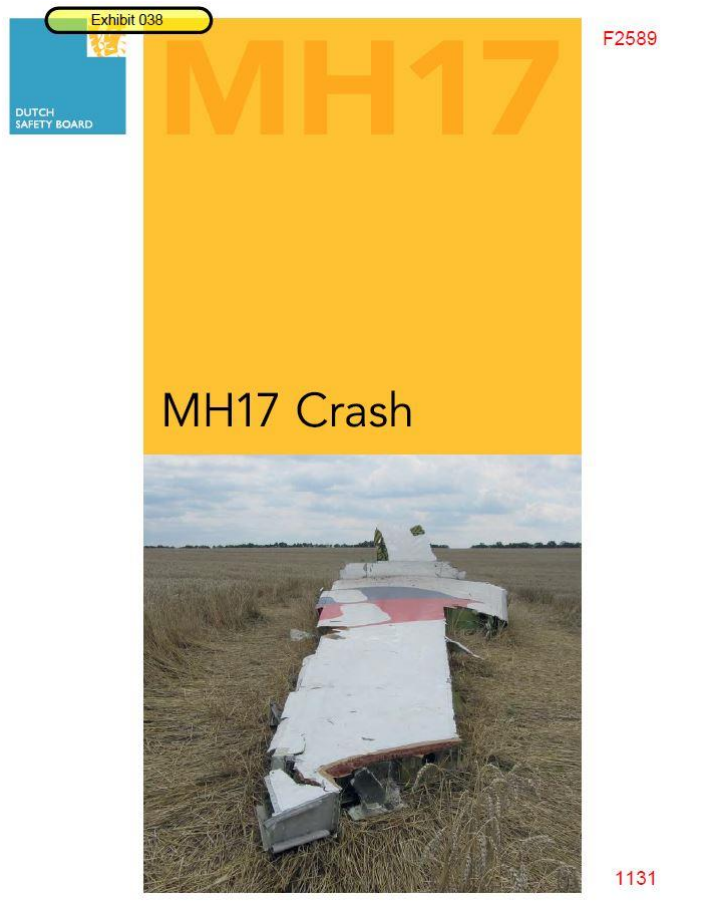
UIA Flight 752

Legal Context

- Article 21 establishes two-tiered liability regime
- Airline strictly liable up to approximately \$240,000 per passenger in the event of injury or death due to an “*accident*”
- *Accident* broadly defined in case law to include events external to the passenger including terrorist attacks and hijackings
- Airline cannot avail itself of the limits on liability if it was negligent
- Airline bears the burden of disproving negligence

Malaysian Airlines Flight 17

July 17 2014



- Shot down by Russian BUK 2 surface to air missile from an altitude of 30,000 feet over Eastern Ukraine
- 298 fatalities including 15 crew
- No survivors
- Investigated by Dutch Safety Board which produced three landmark reports

MH17 Dutch Safety Board Report #1

- Dutch Safety Board Report #1 published October 2015
- Identified serious gaps in the industry's perception and assessment of risks of operating in or near conflict zones
- Open airspace does not necessarily mean safe airspace
- Vast majority of states engaged in conflict do not close airspace to civilian traffic

- Onus is on the operator to assess the safety of the route:

If a particular foreign airspace is not closed or restricted, and the state in which an operator is based has not issued an overflight prohibition or restriction that applies to this particular airspace, it is the operator that decides whether to use that airspace or not. This means that operators have a responsibility to determine whether a flight route is safe enough to be used. Operators can use various information sources, such as public sources, sources from the government of the state in which they are based, external consultants, other operators and its own personnel. The latter also includes staff specifically charged with security aspects.

MH 17 Dutch Safety Report #1

- Deficiencies in Risk Assessment of Low Probability but High Severity Events

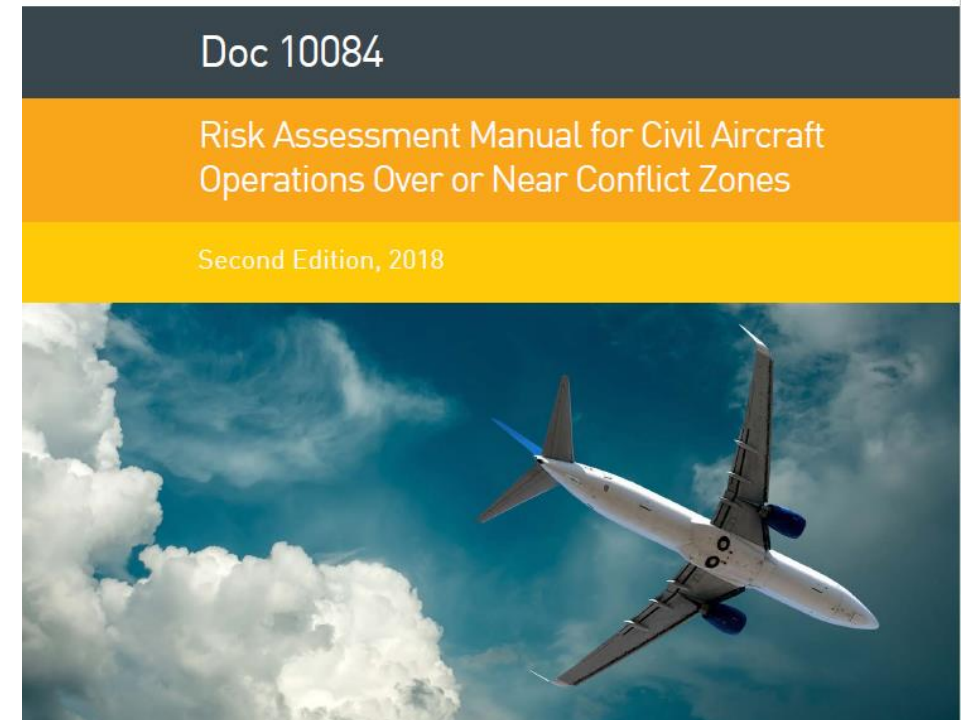
9.2 MH17: no integrated risk assessment

This investigation reveals that, prior to the crash of flight MH17, none of the parties involved adequately identified potential threats that the conflict in the eastern part of Ukraine posed to civil aviation flying over the area.

- Most operators assumed that an airspace which is not closed must be safe. Operators adapted their flight plans to accommodate the airspace restrictions, but did not make a connection with the armed conflict taking place below. Insofar as the Dutch Safety Board has been able to ascertain, there was one operator that discontinued its flights over that area out of caution due to the increasing unrest in Ukraine. But that was already before the armed conflict had arisen in the eastern part of the country.

ICAO Manual 10084

- First published in 2017 in response to DSB recommendations
- 2nd Edition in effect at time of UIA 752
- Provides comprehensive guidance on the assessment of risks of operating over or near conflict zones



Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO Manual 10084



Conflict zones. Airspace over areas where armed conflict is occurring or is likely to occur between militarized parties, and is also taken to include airspace over areas where such parties are in a heightened state of military alert or tension, which might endanger civil aircraft.

Risk. The potential for an unwanted or calculated outcome resulting from an occurrence. Risk can be estimated by considering the likelihood of threats, vulnerabilities and consequences or impacts.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Security. Safeguarding civil aviation against acts of unlawful interference. This objective is achieved by a combination of measures and human and material resources.

Doc 10084

Risk Assessment Manual for Civil Aircraft
Operations Over or Near Conflict Zones

Second Edition, 2018



Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO Manual 10084

- Collection of information, especially open source data, is critical to the process

4.6.4 The illustrative risk assessment process in Figure 4-2 is an inclusive mechanism to determine the correlated operational risk from operations over or near conflict zones and serves as enabler for an informed risk-based decision on the continuation of affected operations. The six components — collection and sharing of relevant information, threat analysis, security risk assessment, hazard identification, safety risk assessment, and risk determination — are complementary in nature and build on interfaces designed to address appropriately any unintended consequences of applied mitigation strategies. It is important to consider this process as a continuous mechanism that should be an ongoing activity. Emphasis is placed on the availability of appropriate information which is the prerequisite for a functioning risk assessment process.

2. Those who do not have reliable access to this sort of information may wish to consider subscribing to services provided by organizations that specialize in providing information and analysis about conflict and security issues. Some aircraft operators are known to be already using such information and analysis to inform their risk assessments.

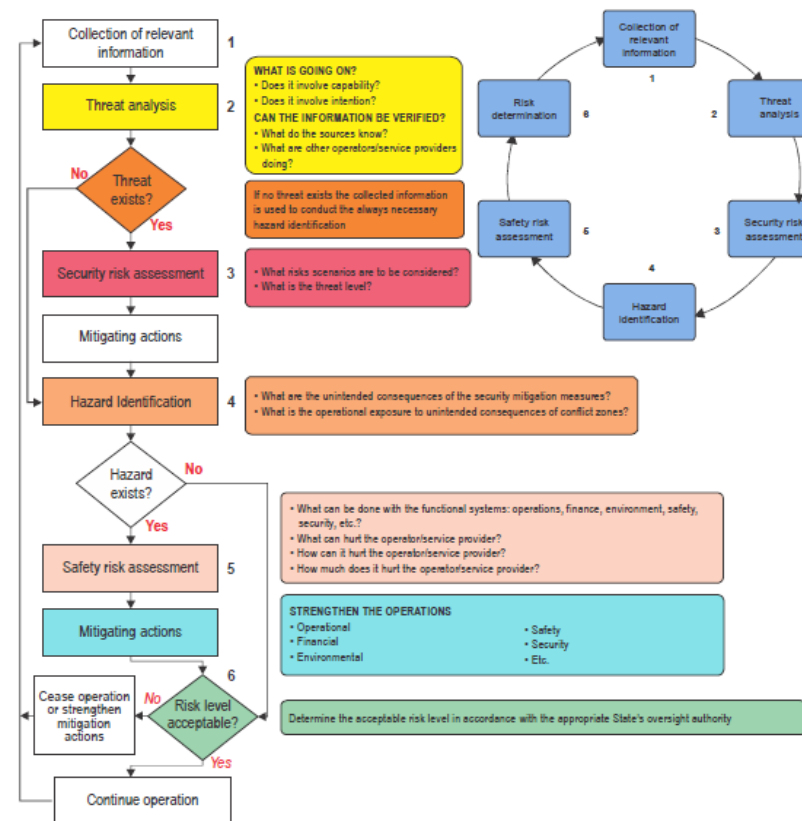


Figure 4-2. Flow chart of the risk assessment cycle for operators and service providers

ICAO 10084 Key Qualitative Factors

RELEVANT INFORMATION AND POSSIBLE SOURCES

1. Bearing in mind the key risk factors identified to be taken into account when conducting a risk assessment, States or aircraft operators wishing to conduct their own assessment of the risk of flying over or near a particular zone of conflict or high tension may wish to understand:

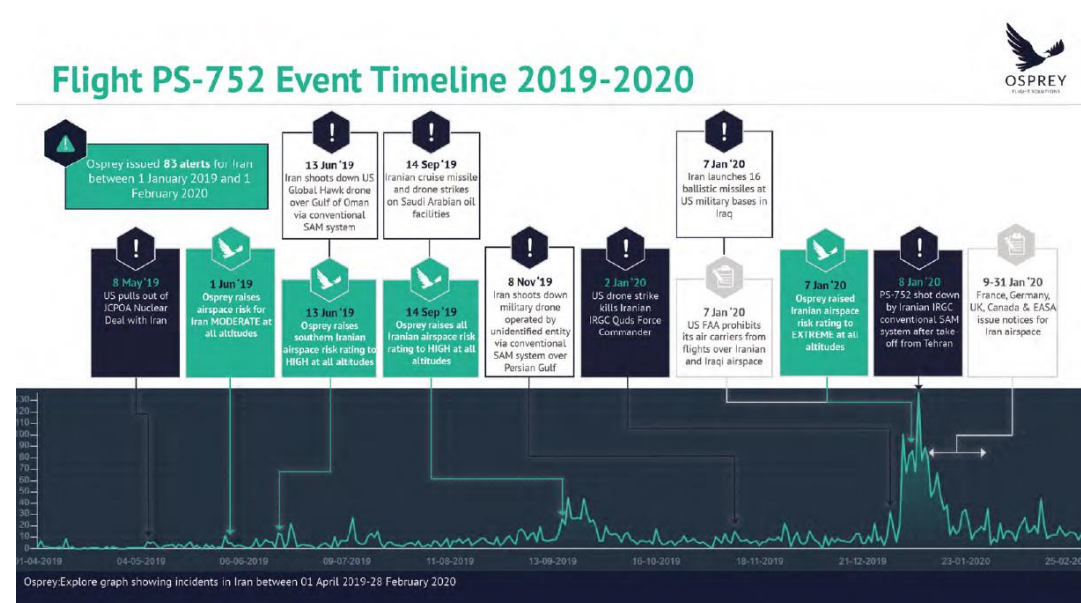
- a) the types of military equipment available to the parties and, in particular, the likelihood that they may have access to SAMs. This might be evidenced by reporting of the use of missile attacks against military aircraft;
- b) the broader military capabilities of parties. Larger State military actors would be more likely to have access to SAMs and the training to use them. At the same time they are likely to have more robust command and control regimes and be better trained in target identification than non-State actors;
- c) the nature of the conflict, and in particular whether one side was reported to be using, or was considered likely to use, air power against the other;
- d) indications or notifications of the loss of effective control over the relevant airspace by the State or organization responsible for providing air navigation services; and
- e) specific areas or locations that may be of particular strategic importance or sensitivity in the context of the conflict, such as key infrastructure or sites of military importance, and which might therefore be considered as likely targets for air attack and are more likely to be guarded by SAMs.

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Osprey Flight Solutions

- Following the downing of MH 17, ex UK special forces engineer Andrew Nicholson forms Osprey Flight Solutions to provide data driven risk analysis of conflict zones
- Osprey's proprietary software scrapes data from 200,000 open source sites in 65 languages
- Data is scraped every 15 minutes collecting 1.5 million data points daily
- Data is filtered, geolocated and categorized into 80 categories
- Data is sent to human analyst for assessment

Osprey Timeline of Key Events



UIA Risk Assessment of Iranian Airspace January 2020

January 3, 2020 Assassination of General Soleimani

- Baseline assessment from beginning of operations in Iran
- Updated assessment conducted January 6, 2020 – 3 days following assassination
- Limited collection of open source information
- No review of FAA conflict zone NOTAMs
- No review of Osprey
- No contemporaneous records of risk assessment meeting
- No “native” version of risk assessment certificate

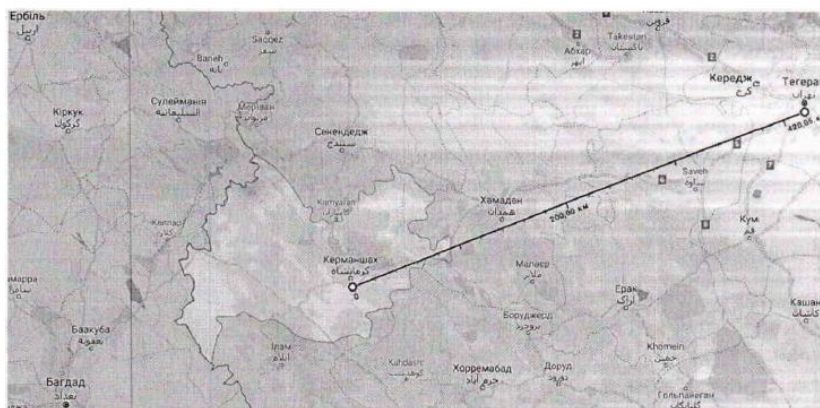
UJA Risk Assessment of Iranian Airspace January 8 2020

CERTIFICATE
on the Assessment of Security Threats and Risks During Flights to Imam Khomeini International Airport, Tehran, Islamic Republic of Iran

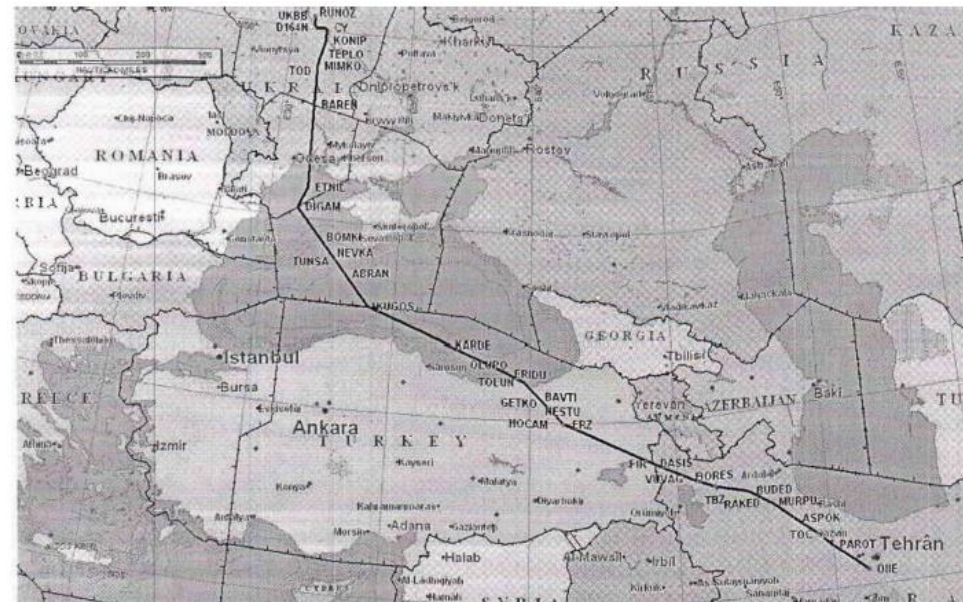
| Seq. No. | Type of threat | Probability | Consequence severity | Vulnerability | LEVEL OF RISK | Risk acceptance criterion |
|----------|---|-------------|----------------------|---------------|---------------|---------------------------|
| 1 | Use of MANPADS OR SAMs | Medium | High | Medium | Medium | Acceptable |
| 2 | Use of remotely piloted aircraft systems (RPAS) | Medium-low | Medium-high | Medium-high | Medium-low | Acceptable |

At approximately 02:00 Tehran time (00:30 Kyiv time) on January 08, 2020, Iran launched missile strikes on the US military bases in Iraq.

Using open sources on the Internet, it was found that the missiles were fired toward Iraq from the province of Kermanshah (https://www.rbc.ru/rbcfreenews/5e151e5f9a794786f8f09c6d?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fyandex.ru%2Fnews; <https://www.depo.ua/ukr/svit/iran-pidtvrdiv-udar-po-amerikanskiy-aviabazi-v-iraku-202001081091129>), which is located near the border with Iraq. The distance from Tehran to this province is approximately 420 km. The map is attached.



Flight routes to/from Imam Khomeini International Airport did not pass through Iraqi airspace. After taking off from Imam Khomeini International Airport, UJA aircraft moved northwest toward Turkey and their route was far from the Iraqi border.



There was no information that would give grounds for not operating the Tehran-Kyiv flight. In connection with these events, it was decided to continue monitoring the situation that has developed against the backdrop of deteriorating military-political relations between the United States and Iran.

The risk acceptance criterion for flights to/from Imam Khomeini International Airport was "Acceptable".

The Deputy President for Aviation Security – Director /signature/

P.M. Martynenko

January 08, 2020

UJA Risk Assessment of Iranian Airspace January 8 2020

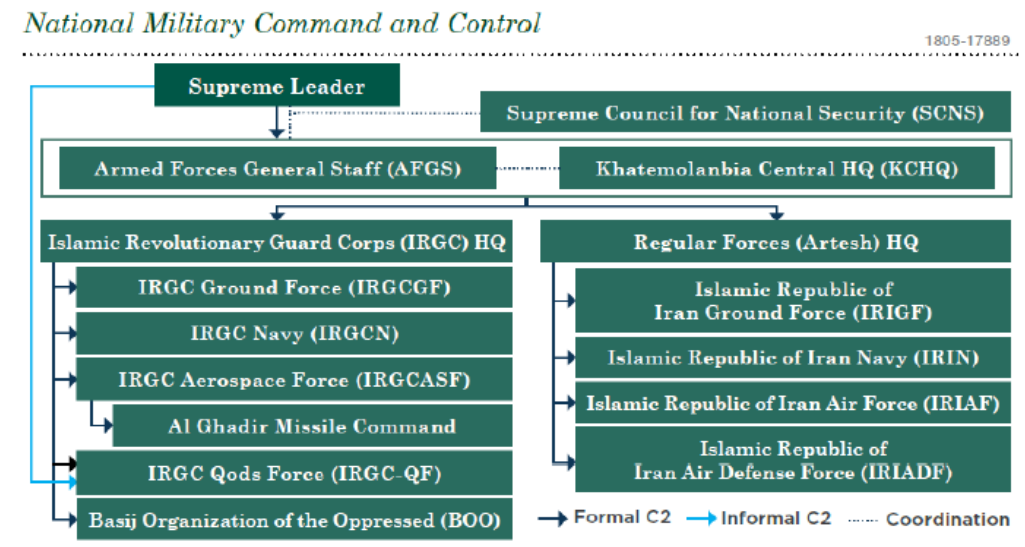
- Orthodox Christmas
- One person on duty monitoring events in Iran
- Collection of open source information limited to a few media outlets
- No review of FAA conflict zone NOTAMs
- No review of Osprey alerts
- No communication with safety group in UJA
- No communication with commander of Flight 752
- No “native” version of risk assessment certificate retained
- No assessment of Iranian military command and control structures
- No understanding of the location of high value military targets in relation to flight path

UIA Flight 752

Iran Military Structure

- Iran’s military consists of 2 separate armies – the Artesh (regular army) and the Iranian Revolutionary Guard
- Both have responsibility for air defence
- Command and control structure is complex
- At times of heightened alert, decision making responsibility is believed to be delegated down to the field level

Command & Control



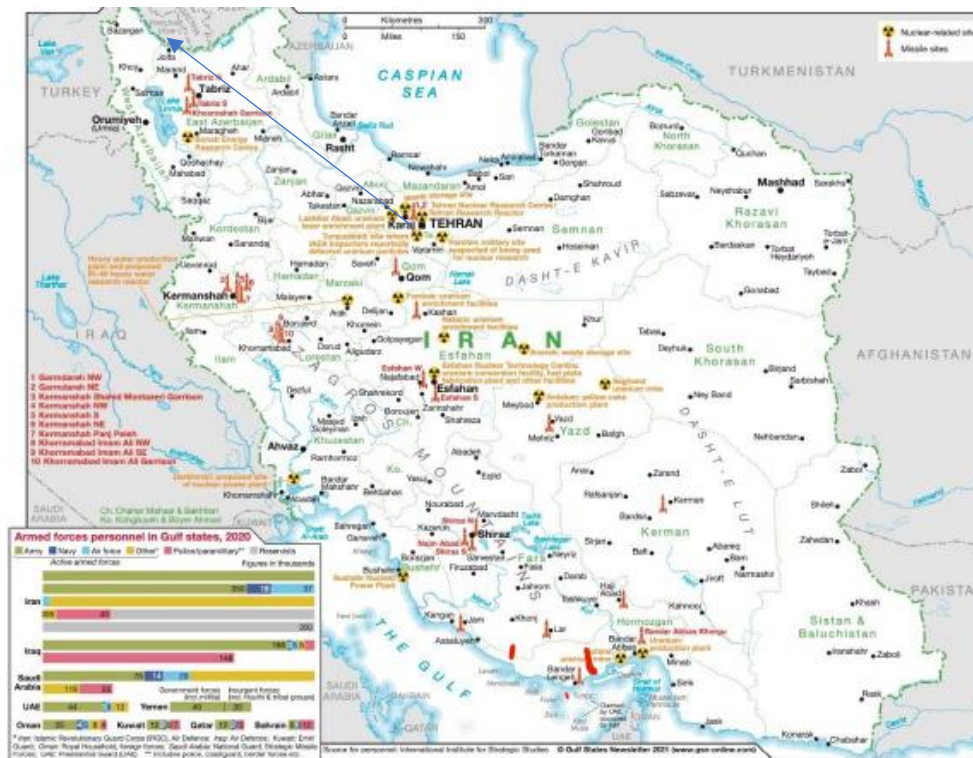
Source: “Iran Military Power, Ensuring Regime Survival and Security Regional Dominance” Defense Intelligence Agency

Flight Path vs. Location of High Value Targets

Flight 752 Route



Military Sites in Iran (open source)



FAA Assessment of Iranian Airspace January 8, 2020

- Issued at 00:07 UTC time
- Prohibits American aircraft from entering Iranian airspace
- Flight 752 departed IKA at 2:42 UTC (6:12 am local time)



Federal Aviation Administration

A0002/20 NOTAMN
Q) KICZ/QRDLP/////

A) KICZ PART 1 OF 2

B) 2001080010

C) PERM

E) SECURITY..UNITED STATES OF AMERICA PROHIBITION AGAINST CERTAIN FLIGHTS IN THE TEHRAN FLIGHT INFORMATION REGION (FIR) (OIIIX). THOSE PERSONS DESCRIBED IN PARAGRAPH A (APPLICABILITY) BELOW ARE PROHIBITED FROM OPERATING IN THE TEHRAN FLIGHT INFORMATION REGION (FIR) (OIIIX) DUE TO HEIGHTENED MILITARY ACTIVITIES AND INCREASED POLITICAL TENSIONS IN THE MIDDLE EAST, WHICH PRESENT AN INADVERTENT RISK TO U.S. CIVIL AVIATION OPERATIONS DUE TO THE POTENTIAL FOR MISCALCULATION OR MIS-IDENTIFICATION.

A. APPLICABILITY. THIS NOTAM APPLIES TO: ALL U.S. AIR CARRIERS AND COMMERCIAL OPERATORS; ALL PERSONS EXERCISING THE PRIVILEGES OF AN AIRMAN CERTIFICATE ISSUED BY THE FAA, EXCEPT SUCH PERSONS OPERATING U.S.-REGISTERED AIRCRAFT FOR A FOREIGN AIR CARRIER; AND ALL OPERATORS OF AIRCRAFT REGISTERED IN THE UNITED STATES, EXCEPT WHERE THE OPERATOR OF SUCH AIRCRAFT IS A FOREIGN AIR CARRIER.

B. PERMITTED OPERATIONS. THIS NOTAM DOES NOT PROHIBIT PERSONS DESCRIBED IN PARAGRAPH A (APPLICABILITY) FROM CONDUCTING FLIGHT OPERATIONS IN THE ABOVE-NAMED AREA WHEN SUCH OPERATIONS ARE AUTHORIZED EITHER BY ANOTHER AGENCY OF THE UNITED STATES GOVERNMENT
END PART 1 OF 2

Osprey Assessment of Iranian Airspace January 8, 2020



OSPREY
FLIGHT SOLUTIONS **CRITICAL ALERT**

07-Jan-2020: Iraq - Iran conducts ballistic missile strikes against US military targets, defer all flight over Iraq & Iran

- Issued at 00:07 UTC time
- Distributed free by email to registered subscribers
- Based on analysis of open-source intelligence collected from over 200,000 sources in 65 languages
- Summary version posted on Twitter

The US Department of Defense has confirmed that at approximately 2230Z on 7 January, Iran launched more than 12 short-range ballistic missiles (SRBMs) targeting Ain Al Asad Air Base (ORAA/IQA) in Iraq's Anbar Province and Erbil International Airport (ORER/EBL) in Iraq's Kurdistan Region. No information has been verified regarding casualties and/or material damage; however, details are still emerging as the situation remains fluid and subject to change. Additional SRBM launches from Iran into Iraq targeting locations where US military advisers are present could occur within the next 12-24 hours with no notice. On 2 January, the US conducted airstrikes against Iranian-linked targets at Baghdad International Airport (ORBI/BGW). Abu Mahdi al-Muhandis, the leader of the Iraqi Popular Mobilisation Unit (PMU) Kataib Hezbollah (KH) militia, and Iran's Islamic Revolutionary Guard Corps Quds Force (IRGC-QF) commander, Qasem Soleimani, were killed in the strikes. Iranian Supreme Leader Ayatollah Ali Khomeini has vowed to seek revenge for the killing of Soleimani, and Iraqi PMU militias have also called for retaliation to the strikes. Of note, KH has warned Iraqi security forces to stay at least 1000m away from bases where US military advisers are present in Iraq, starting on 5 January. EASA as well as the US, UK, German and French civil aviation authorities have each issued similar stringent guidance to operators in the past year regarding the enduring hazardous security situation over Iraq, predominately at altitudes below FL260.

Osprey Assessment of Iranian Airspace January 8, 2020

- Warns of dangers of ballistic missiles in commercial airspace
- Warns of Iranian history of launching missiles without warning
- Warns of Iran's aggressive shutdown policy

Advice

Approvals: As a precaution, conduct operational risk-based identification of divert and alternate airports for flight schedules with planned stops at aerodromes in the country or with overflight of the airspace. Operators are advised to ensure flight plans are correctly filed, attain proper special approvals for flight operations to sensitive locations and obtain relevant overflight permits prior to departure. In addition, ensure crews scheduled to operate to or over the country in the near term are fully aware of the latest security situation.

Missile Launches: Unannounced rocket and missile launches that transit airspace used by civilian aircraft pose a latent threat to operations at all altitudes. The country has a history of not issuing adequate notice of activities in its airspace that could affect flight safety. Multiple safety of flight concerns emanate from a situation where a missile malfunctions during the boost, mid-course or terminal phases of flight. Such an event would cause the missile to fly an unplanned trajectory and altitude profile which could expose overflying aircraft to mid-air collision, route diversion and or debris splashdown issues. Leading civil aviation governing bodies have standing notices advising operators of the threat to civil aviation in the airspace due to unannounced military activity, rocket test firings and or missile launches.

Shoot-down Policy: The country has an aggressive air intercept and shoot-down policy which allows air and air defence forces to intercept and disable aerial targets violating airspace regulations. Military air and air defence assets may be employed to down aerial targets under the auspice of the policy. While legal civil aviation flights are unlikely to be directly targeted, there remains a latent but credible risk of misidentification and interception by military air and air defence assets.

Other Airlines in the Region

Airlines continued to arrive at IKA

Start: January 8, 2020, 00:04 Tehran Time

End: January 8, 2020, 06:31 Tehran Time

| No. | Flight | Airline | Last Point of Departure | Scheduled Time | Actual Time | Aircraft |
|-----|--------|--------------------------------|-------------------------|----------------|--------------|----------|
| 1. | J29005 | Azerbaijan Airlines | Baku, Azerbaijan | 00:25 | Landed 00:04 | E190 |
| 2. | W5115 | Mahan Air | Istanbul, Turkey | 00:45 | Landed 00:49 | A310 |
| 3. | PS751 | Ukraine International Airlines | Kyiv, Ukraine | 00:55 | Landed 00:57 | B738 |
| 4. | TK874 | Turkish Airlines | Istanbul, Turkey | 00:50 | Landed 01:17 | A321 |
| 5. | IR750 | Iran Air | Rimini, Italy | 03:18 | Landed 01:52 | A310 |
| 6. | IR5318 | Iran Air | Najaf, Iraq | — | Landed 01:59 | A306 |
| 7. | W5143 | Mahan Air | Damascus, Syria | — | Landed 02:13 | A310 |
| 8. | IR710 | Iran Air | London, UK | 02:00 | Landed 02:16 | A332 |
| 9. | SU512 | Aeroflot | Moscow, Russia | 02:45 | Landed 02:19 | A320 |
| 10. | IR768 | Iran Air | Istanbul, Turkey | 02:30 | Landed 02:37 | A306 |
| 11. | KK1184 | Atlas Global | Istanbul, Turkey | 03:20 | Landed 02:56 | A321 |
| 12. | QR490 | Qatar Airways | Doha, Qatar | 3:35 | Landed 03:18 | A333 |
| 13. | B99717 | Iran Airtour | Istanbul, Turkey | — | Landed 03:26 | A306 |
| 14. | QR8408 | Qatar Airways | Doha, Qatar | 03:25 | Landed 03:34 | B77L |
| 15. | TK872 | Turkish Airlines | Istanbul, Turkey | 03:50 | Landed 03:47 | A321 |
| 16. | QB2214 | Qeshm Air | Istanbul, Turkey | 02:50 | Landed 03:49 | A306 |

| No. | Flight | Airline | Last Point of Departure | Scheduled Time | Actual Time | Aircraft |
|-----|--------|------------------|-------------------------|----------------|--------------|------------|
| 17. | IR726 | Iran Air | Urmia, Iran | 03:55 | Landed 03:55 | A332 |
| 18. | W582 | Mahan Air | Kuala Lumpur, Malaysia | 03:31 | Landed 04:15 | A343 |
| 19. | W576 | Mahan Air | Shanghai, China | 04:00 | Landed 04:55 | A346 |
| 20. | TK878 | Turkish Airlines | Istanbul, Turkey | 05:35 | Landed 05:33 | A333 |
| 21. | W570 | Mahan Air | Delhi, India | 05:20 | Landed 05:37 | A343 |
| 22. | EP3768 | Aseman Air | Shiraz, Iran | 06:25 | Landed 06:31 | Fokker 100 |

Other Airlines in the Region

Airlines continued to depart IKA

Start: January 8, 2020, 01:37 Tehran Time

End: January 8, 2020, 07:49 Tehran Time

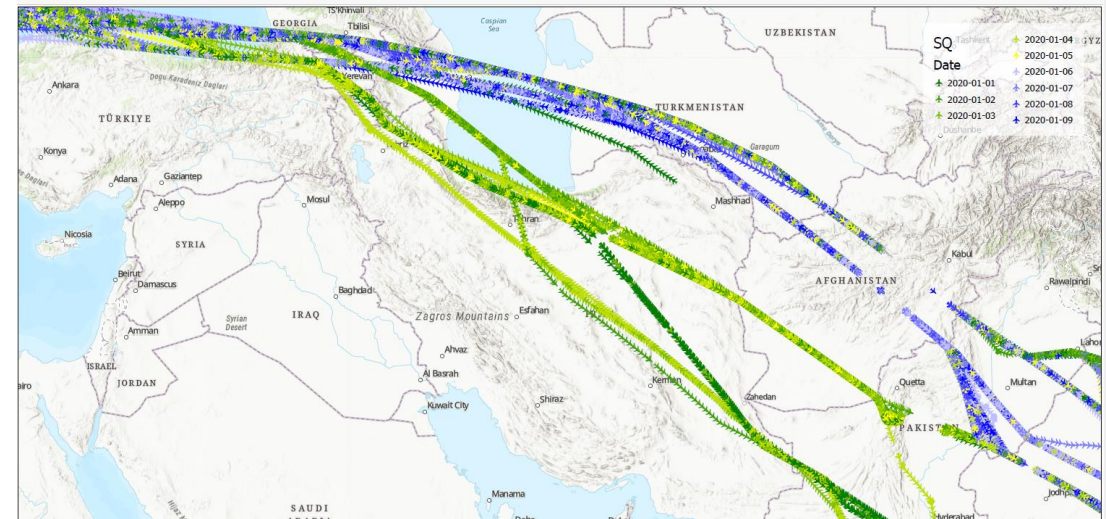
| No. | Flight | Airline | Last Point of Departure | Scheduled Time | Actual Time | Aircraft |
|-----|------------------|--------------------------------|-------------------------|----------------|----------------------|----------------|
| 1. | J2 9006 | Azerbaijan Airlines | Baku, Azerbaijan | 01:25 | 01:37 | E190 |
| 2. | LX 4021 / LH 601 | Swiss/Lufthansa | Frankfurt, Germany | 02:25 | 02:43 | A330 |
| 3. | TK 875 | Turkish Airlines | Istanbul, Turkey | 03:00 | 03:35 | A321 |
| 4. | OS 872 | Austrian Airlines | Vienna, Austria | 03:45 | 04:23 | A320 |
| 5. | SU 513 | Aeroflot | Moscow, Russia | 04:30 | 04:32 | A320 |
| 6. | QR 491 | Qatar Airways | Doha, Qatar | 04:45 | 05:00 | A320 |
| 7. | TK 873 | Turkish Airlines | Istanbul, Turkey | 04:45 | 05:07 | A321 |
| 8. | KK 1185 | Atlas Global | Istanbul, Turkey | 05:15 | 05:17 | A330 |
| 9. | QR 8408 | Qatar Airways | Hong Kong | 05:15 | 05:39 | B777 |
| 10. | PS 752 | Ukraine International Airlines | Kyiv, Ukraine | 05:15 | 06:12 | Boeing 737-800 |
| 11. | IR 721 | Iran Airlines | Frankfurt, Germany | 07:15 | 07:49 ¹⁸⁹ | A330 |

Other Airlines in Region

Overflying Aircraft Avoided Iranian Airspace

- A number of airlines re-routed flights to avoid overflying Iranian airspace
- Singapore Airlines appears to have commenced re-routing after the assassination of General Soleimani on January 3, 2020
- Other airlines took evasive action after the missile attack on January 8 including KLM, Air Canada and BA

Singapore Airlines (open source)



Other Airlines in Region

BA had 3 aircraft in the air

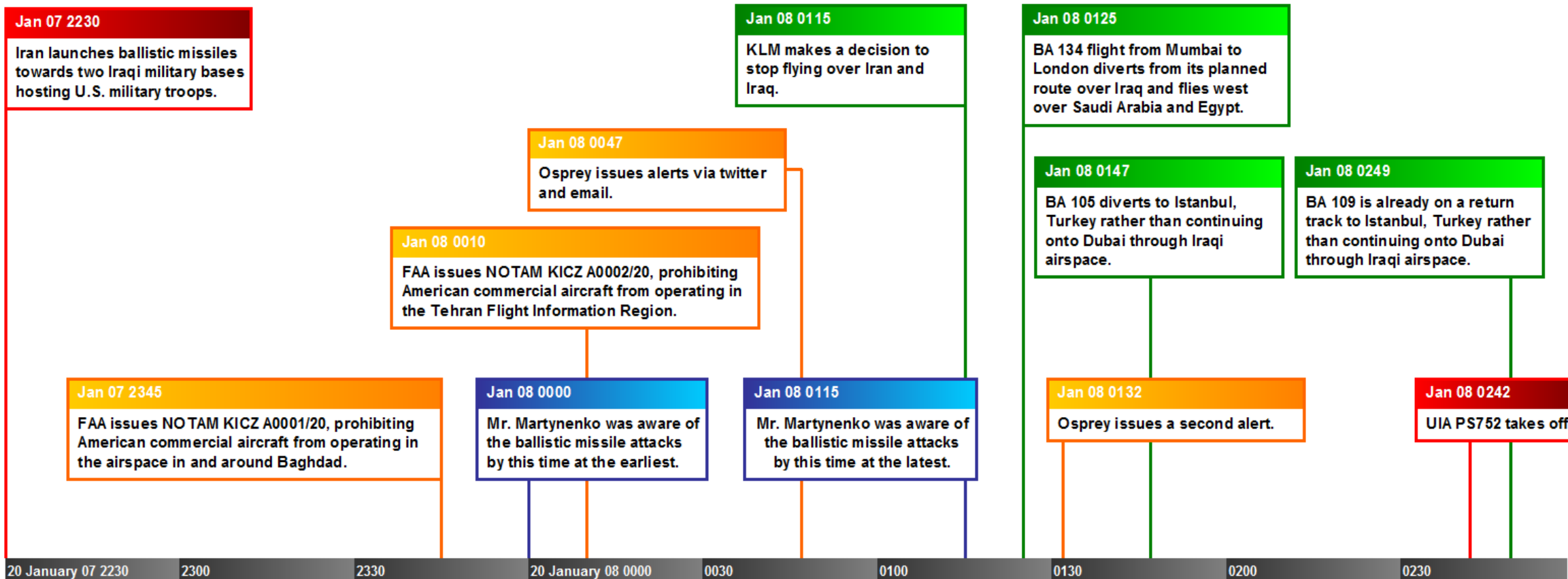
- BA had 3 aircraft in the air bound for Iraqi and/or Iranian airspace at the time of the missile attack
- Each aircraft took evasive measures

BA Flight Data (open source)



UJA Flight 752

Timeline (UTC)



UIA Flight 752 Trial - Legal Standards

Negligence Standard

- Court applied local understanding of negligence
- Under Canadian law, conduct is negligent if it exposes someone to an unreasonable risk of injury
- In assessing conduct, court may have regard to industry regulations, standards and practices

Regulatory Standards

[154] At para. 29 of *Ryan*, the Court described the relationship between legislative standards and the standard of care as follows:

Legislative standards are relevant to the common law standard of care, but the two are not necessarily co-extensive. The fact that a statute prescribes or prohibits certain activities may constitute evidence of reasonable conduct in a given situation, but it does not extinguish the underlying obligation of reasonableness. ... Thus, a statutory breach does not automatically give rise to civil liability; it is merely some evidence of negligence. ... By the same token, mere compliance with a statute does not, in and of itself, preclude a finding of civil liability. ... Statutory standards can, however, be highly relevant to the assessment of reasonable conduct in a particular case, and in fact may render reasonable an act or omission which would otherwise appear to be negligent. This allows courts to consider the legislative framework in which people and companies must operate, while at the same time recognizing that one cannot avoid the underlying obligation of reasonable care simply by discharging statutory duties. [Citations omitted.]

UIA Flight 752 Trial - Legal Standards

Regulatory Standards

- Where a statute strictly defines the manner of performance and precautions to be taken, it is more likely that compliance with the statute constitutes reasonable care
- Conversely, where a statute is general or provides or discretion as a manner of performance, mere compliance is not likely to exhaust the standard of care

Industry Standards and Practices

[156] External indicators of reasonable conduct relevant to determining the content of the standard of care also include custom, industry practice, professional standards, and regulatory standards in addition to statutory standards: *Hill*, at para. 70; *Krawchuk v. Scherbak*, 2011 ONCA 352, 106 O.R. (3d) 598, at para. 125; *R. v. Saskatchewan Wheat Pool*, [1983] 1 S.C.R. 205, at pp. 227-228.

[157] Parties have been found to be negligent even when acting in compliance with statutory standards, or other external indicators of reasonable conduct, such as industry practice: see, for example, *Zsoldos v. Canadian Pacific Railway*, 2009 ONCA 55, at paras. 30, 42-44; *Murphy v. Atlantic Speedy Propane* (1979), 103 D.L.R. (3d) 545 (N.S.S.C.).

UJA Flight 752 Trial - Expert Evidence

Captain Edmond Soliday

- UJA filed expert report and called the evidence of Captain Edmond Soliday
- Soliday claimed that UJA's risk assessment met industry standards
- Plaintiffs challenged the admissibility of his evidence on the basis of qualifications and bias
- After hearing his evidence and cross examination, Court ruled evidence inadmissible
- As a result, UJA did not have any admissible expert evidence on key issue

[120] Mr. Soliday retired from United Airlines shortly after 9/11, but continued to consult for it in connection with the 9/11 proceedings. He began a new career when he was elected to the Indiana House of Representatives in 2006, where he continues to serve. Currently he is the Chair of the Utilities, Energy and Transportation Committee.

[121] Mr. Soliday has done some aviation consulting since he ceased consulting for United Airlines in about 2004. He gave two examples in his evidence. He is consulting with respect to a case involving fuel dumping over Los Angeles, and in a case involving a shooting in the Fort Lauderdale airport. He has never consulted with respect to flying into a conflict zone, and has never used International Civil Aviation Organization ("ICAO") document 10084 ("ICAO 10084"), which the parties agree is a key document with respect to identifying the industry standard for security threat risk assessments for airlines flying over or near conflict zones.

[122] Mr. Soliday's experience is very impressive, but insofar as he has experience dealing with flights over or near conflict zones, from either a safety or a security perspective, the experience relates to his time as a full-time employee at United Airlines, over twenty years ago.

[126] Thus, while Mr. Soliday has had an impressive career in airline safety and security, his expertise is out of date. For that reason, Mr. Soliday does not pass the first threshold of the *Mohan* test. He is not a properly qualified expert.

UIA Flight 752 Trial – Breach of the Standard of Care

Standard of Care Required compliance with ICAO 10084

[257] I find that mere compliance with UIA's manuals or the law of Ukraine was not sufficient to exhaust UIA's standard of care on the morning of January 8, 2020. None of those sources provided anything more than general information about conducting risk assessments related to flying over, in, or near conflict zones. To meet the standard of care, UIA was required to follow the guidance provided by ICAO with respect to security threat risk assessments, safety risk assessments, and flying over or near conflict zones, in addition to the guidance set out in its manuals and in the laws of Ukraine.

Deficiencies

- UIA failed to collect relevant information including FAA NOTAM's and Osprey alerts
- UIA failed to conduct an assessment of the critical risk escalation factors in ICAO Manual 10084
- UIA failed to conduct the required safety assessment
- UIA failed to communicate with the Commander of Flight 752 to inform him of the missile attack

UJA Flight 752 Trial – Breach of the Standard of Care

Risk of Shoot Down Foreseeable

[443] In my view, the risk of PS752 being struck by a SAM was reasonably foreseeable:

- a. Osprey, using its sophisticated software and analysis, warned of the very risk that transpired;
- b. The FAA warned of the very risk that transpired in its NOTAM;
- c. There was a relatively recent example of a flight, MH17, being struck unintentionally by a SAM when flying in a conflict zone;
- d. Mr. Martynenko himself decided the risk was worth undertaking a security threat risk assessment and concluded the risk was medium;
- e. A passenger on the plane texted her brother expressing fear of the very risk that materialized.

Judgment to Plaintiffs

Summary of Orders

[480] In summary, I make the following orders:

- a. I declare that the defendant has failed to prove, on a balance of probabilities, under article 21 of the *Montreal Convention*, that the plaintiffs' damage was not due to the negligence or other wrongful act or omission of the carrier or its servants or agents; or that such damage was solely due to the negligence or other wrongful act or omission of a third party.
- b. The defendant, UJA, shall pay costs to the plaintiff groups as set out below, within 60 days:
 - i. To the HSH and CFM plaintiffs: with respect to HSH, costs fixed at \$600,000 plus HST plus disbursements of \$86,433.89; and with respect to CFM, costs fixed at \$850,000 plus HST plus disbursements of \$292,219.69.

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