

CONSULTATION PART B: FLYING OVER CONFLICT ZONES

State / Organisation	Page	Section / paragraph (e.g. 3.1.2)	Text to be corrected (first: ... last word)	Argument / substantiation	Dutch Safety Board Response
Ministry of Security and Justice of The Netherlands	1	LETTER	<p>Part of the Dutch Safety Board’s investigation was conducted by the CTIVD. The Dutch Safety Board distances itself from an important point made in the conclusions of the CTIVD report. This is notable. The CTIVD concludes that the threat factors that Services use constitute a good basic principle for assessing whether a specific threat exists. These factors offer an insight into the severity and the probability of a threat. However, the Dutch Safety Board proposes a different system.</p> <p>because the existing one offers insufficient insight into possible threats. I would like to ask that you reconsider this conclusion.</p>		The Dutch Safety Board concludes that the parties concerned consider there to be a threat when it is established that there is capability, potential and intention. If it is not sufficiently clear whether there is intention or capability, it is assumed that there is no threat. The Dutch Safety Board recommends that this be reconsidered.
Ministry of Security and Justice of The Netherlands	1	LETTER	<p>The report cites the NOTAM issued by the Russian Federation on 16 July for the Rostov FIR. The NOTAM specifies the reason for the partial closure of the airspace: ‘combat actions on the territory of Ukraine near the state border with the Russian Federation and the facts of firing from the territory of Ukraine towards the territory of the Russian Federation’. This NOTAM effectively imposed the same altitude restrictions as the Ukrainian NOTAMs. However, at the bottom it was stated that it applied to the part of the airspace from ground level to FL530 (a higher flight level than that which has to be taken into account). Therefore, this Russian NOTAM cites two different altitudes. The Dutch Safety Board links to no further analysis or context, which means that this individual fact raises more questions than it answers. I suggest that the NOTAMS be linked to further analyses so that this can be placed more in context.</p> <p>The report suggests that it was possible that weapons were present in Eastern Ukraine that could reach aeroplanes at cruising altitude. The report also states that the presence (to date) of such weapons on Ukrainian territory controlled by separatists cannot be confirmed. The suggestion that weapons that could reach cruising altitude were present in the area is not substantiated. I ask that you add this substantiation to eradicate or avoid any further discussion about this point.</p>		<p>The Dutch Safety Board requested additional information about these two NOTAMs from the Russian Federation, but did not receive any. Therefore, the reason for the difference in altitude in the two NOTAMs was not clarified.</p> <p>In the report, the Dutch Safety Board also states that the way in which a conflict develops (in this case, expanding to the air) could be relevant to the risk assessment. Moreover, the Ukrainian authorities reported, in connection with two incidents (on 14 and 16 July 2014) that there was possible use of medium-range surface-to-air or air-to-air weapons from the Russian Federation. These can also pose a threat to civil aeroplanes at cruising altitude in Ukrainian airspace.</p>
Ministry of Infrastructure and the Environment of The Netherlands	15	1	In the context of this report, the term safety is meant as an overarching term that encompasses intentional threats to civil aviation (security) as well as safety in the sense of the word that does not entail intentionality (safety). The report only mentions ‘security’ when referring to the specific activity focused on managing intentional threats (see also, for example, Chapter 6, page 87). This leads to confusion.		The definitions of safety and security used are included in Section 12, Abbreviations and Definitions.

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Ministry of Infrastructure and the Environment of The Netherlands	23	2/3	If, based on its AOC, an airline is authorised to fly and thus land in a certain area, a National State can only impose a flight prohibition on its airlines if this action is explicitly included in its national legislation. The Netherlands cannot do so. This needs to be clear from the diagram (or at least include a reference to the third paragraph on page 25). Check wording.		The diagram is not specifically relevant to the Netherlands, but to a limited number of other countries. It is a simplified diagram, which is explained in more detail in the text.
Ministry of Foreign Affairs of The Netherlands	31		After 'Following a period of unrest' add: ', during which RF troops occupied strategic positions without Ukraine's consent,'.	The unrest was orchestrated by the RF. President Putin later admitted this in an interview.	The Dutch Safety Board does not provide any political interpretation of the events.
Ministry of Foreign Affairs of The Netherlands	32		Add: 'The international community does not recognise the illegal annexation'.	Make it clear here that the annexation is contrary to international law.	The Dutch Safety Board does not provide any political interpretation of the events.
Ministry of Foreign Affairs of The Netherlands	32		'This conflict increasingly spread to the airspace.' Proposed addition: 'and targeted military aircraft up to an altitude of ca. 6 km.' Insofar as is known, MH17 was the first and to date the only civil flight to be shot down above 6.5 km.		The Dutch Safety Board was not able to verify the exact altitudes of the aircraft that were downed prior to 17 July. Altitudes that were announced by the Ukrainian authorities are included in the figure and cited in the text. The weapon systems cited by the RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report to be relevant to the risk assessment by Ukraine.
Ministry of Foreign Affairs of The Netherlands	35		List of aircraft shot down: insofar as is known, until MH17, it only concerned military aircraft up to an altitude of ca. 6 km.		The Dutch Safety Board was not able to verify the exact altitudes of the aircraft that were downed prior to 17 July. Altitudes that were announced by the Ukrainian authorities are included in the figure and cited in the text. The weapon systems cited by the RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report to be relevant to the risk assessment by Ukraine.
Ministry of Foreign Affairs of The Netherlands	37		Add nuance to the entire section using other statements: Ukraine's briefing on 14/7 and the press statement on 15/7. Refer also to the CTIVD investigation and other references, which disproved even before 17/7 that a weapon at cruising altitude could have been involved in the Antonov incident.	See the accompanying letter. Too much value is attached considering the complex of facts known before and after 17/7 about the cause of the Antonov's crash.	The Dutch Safety Board was not able to verify the exact altitudes of the aircraft that were downed prior to 17 July. Altitudes that were announced by the Ukrainian authorities are cited in the text. The weapon systems cited by the RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report to be relevant to the risk assessment by Ukraine. In the investigation referred to, the possibility that the aeroplane was shot down with an air-to-air missile was not addressed.
Ministry of Foreign Affairs of The Netherlands	39		Western military sources doubted this notion (see also Chapter 6).	Elaborate or delete.	This concerns a reference to an elaboration in Chapter 6.
Ministry of Foreign Affairs of The Netherlands	43		Delete 'The weapon systems that were explicitly mentioned in a press statement could pose a risk to civil air traffic at cruising altitude.'	This sub-conclusion goes too far. There were several statements by the Ukrainian authorities. The systems mentioned in the statement by the RNBO (p. 38) were, according to that statement, fired by the RF. The AIVD/MIVD investigation demonstrated (before 17/7) that this was unlikely.	If an armed conflict is being fought in an area and expands to the airspace, and there are uncertainties pertaining to the weapons present, a potential threat to civil aviation should be taken into account. In the investigation referred to, the possibility that the aeroplane was shot down with an air-to-air missile was not addressed.

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Ministry of Foreign Affairs of The Netherlands	59		Delete 'The weapon systems that were explicitly mentioned in a press Statement could pose a risk to civil air traffic at cruising altitude.'	This conclusion goes too far: there is no linear connection between risks to military aircraft and risks to civil aircraft if weapons that can reach cruising altitude are not available during the conflict. As revealed by the investigations cited in the report, such as those of the AIVD/MIVD, there were no indications of any danger to civil aviation prior to 17/7.	If an armed conflict is being fought in an area and expands to the airspace, and there are uncertainties pertaining to the weapons present, a potential threat to civil aviation should be taken into account. In the investigation referred to, the possibility that the aeroplane was shot down with an air-to-air missile was not addressed.
Ministry of Foreign Affairs of The Netherlands	59		Delete 'The threats...in a press statement'.	As stated before, the explanation on p. 38 must be elaborated. It involved a suspicion that RF troops had shot down the Antonov - an accusation that directly formed the rationale for the AIVD/MIVD investigation. Furthermore, there were statements made by Ukrainian authorities as well as data (see CTIVD: the fact that there were survivors and that the aeroplane did not break up in mid-air) that place this statement in a different light.	The Dutch Safety Board deems this report by the Ukrainian authorities related to the flight altitude and weapon systems possibly used to be relevant to the risk assessment by Ukraine. In the investigation referred to, the possibility that the aeroplane was shot down with an air-to-air missile was not addressed.
Ministry of Foreign Affairs of The Netherlands	60		Add after 'was incorrect': 'However, there is other information known (see AIVD/MIVD investigation) that indicates that this statement was incorrect'.		See previous comment.
Ministry of Foreign Affairs of The Netherlands	61		Add: 'It must also not be ruled out that, based on its own information position, Ukraine concluded that there were no risks to air traffic above FL320.'	The report states that the armed forces did not consider that there were any risks to civil aviation. Therefore, there was no rationale for Ukraine to close its airspace above FL320.	How the risk assessment was performed in Ukraine is described in detail in Chapter 6.
Ministry of Foreign Affairs of The Netherlands	62		Add: ' As is customary , the NOTAM stated...'	The Dutch Safety Board established that NOTAMs rarely contain any motivation.	This is already addressed in another conclusion.
Ministry of Foreign Affairs of The Netherlands	62		Add: ' non-binding recommendation'	Repeat what has already been stated, that this document is non-binding.	Elsewhere the report states that ICAO Docs are non-binding, which does not need to be repeated here. This sub-conclusion relates to the fact that Ukraine did not act according to the spirit of this recommendation. Although the recommendation is not binding, it isn't non-committal either.
Ministry of Foreign Affairs of The Netherlands	62		Delete: 'The weapon systems...closed'.	See previous comments. In light of the information available prior to 17/7, too much value is attached to the suspicions that the RNBO expressed in its statement.	The Dutch Safety Board was not able to verify the exact altitudes of the aircraft that were downed prior to 17 July. Altitudes that were announced by the Ukrainian authorities are included in the figure and cited in the text. The weapon systems cited by the RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report to be relevant to the risk assessment by Ukraine in itself.
Ministry of Infrastructure and the Environment of The Netherlands	69	5/4	The difference between safety and security is not explicit enough. Safety of the flight in the flight phase (= safety). A security department assesses the situation on the ground (= security), but the airline is also ultimately responsible for in-flight security measures (on board the aeroplane) to be taken as well as for those taken. Sentence 16 is also incorrect: 'security' is translated as 'beveiliging'. Page 70 then goes on to discuss the 'safety situation' (line 1).		This section describes the organisation at Malaysia Airlines. In Section 12, Abbreviations and Definitions, the concepts are explained.

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Ministry of Foreign Affairs of The Netherlands	69		'The Security Department is responsible for security. Analysts that produce threat analyses mainly examine the situation on the ground and not in the airspace.' 'The Security Department is not responsible for studying aeronautical information such as NOTAMs and threats to airspace.'	This shortcoming at airlines appears to have been given little weight in the final assessment.	The shortcoming that arises from Annex 17 of the Chicago Convention is cited elsewhere in the report (Chapter 9).
Ministry of Foreign Affairs of The Netherlands	69		situation on the ground' was indeed verified properly by Malaysia Airlines with regard to a possible charter flight to Yemen on 17/7. Obviously not in the case of the eastern part of Ukraine.		Malaysia Airlines did not operate to any destinations in Ukraine and therefore did not assess the situation on the ground.
Ministry of Foreign Affairs of The Netherlands	73		Prior to 17 July, the airline possessed no information that there could be long-range anti-aircraft missiles and air-to-air missiles in the area.	The presence of such systems prior to 17/7 and after (with regard to the period prior to 17/7) was not demonstrated. Moreover, their mere presence does not constitute a risk in itself (after all such systems are present all over the world).	The text refers to the information Malaysia Airlines did or did not possess.
Ministry of Foreign Affairs of The Netherlands	76		States - airlines. Another word must be used instead of 'based'.	The sentence is basically correct, but in light of paragraph 1 it seems to suggest that States can also address those airlines that are not based in the country, but do have a representation or sales office.	Considering the context the addition is not considered necessary.
Ministry of Foreign Affairs of The Netherlands	82		Add 'just as all the other airlines' after 'did'.	As demonstrated by the Dutch Safety Board, not a single other airline took action.	This section specifically refers to Malaysia Airlines.
Ministry of Foreign Affairs of The Netherlands	82		Delete 'despite... fighter plane'	With today's knowledge, too much value is attached to the statement on page 38. See also above.	The Dutch Safety Board deems this report by the Ukrainian authorities related to the flight altitude and possible use of weapon systems to be relevant to the risk assessment.
Ministry of Foreign Affairs of The Netherlands	84		conflict increasingly spread to the air'. Proposed addition: until 17/7/2014, military aircraft were shot down up to ca 6.5 km. See also previous point.		The Dutch Safety Board was not able to verify the exact altitudes of the aircraft that were downed prior to 17 July. Altitudes that were announced by the Ukrainian authorities are included in the figure and cited in the text. The weapon systems cited by the RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report to be relevant to the risk assessment by Ukraine.
Ministry of Foreign Affairs of The Netherlands	87		This section also mentions the airlines 'based' in a particular state.	In the context of the Netherlands, airlines are only 'based' in the country if they possess a Dutch Air Operation Certificate, are under the legal control of the Dutch government and are Dutch/European property. Malaysia Airlines does have a representation in the Netherlands, but in this sense was not based in the Netherlands.	The context reveals that, with regard to a flight prohibition or restriction, Malaysia Airlines is not referred to.
Ministry of The Interior and Kingdom Relations of The Netherlands	89	6.3	Addition by the CTIVD is missing: 'It is then up to the AIVD to consider whether the provision of information is one of its tasks'.		For the full text, refer to Appendix T.
Ministry of The Interior and Kingdom Relations of The Netherlands	89	6.3	It is important to explicate the interaction between the AIVD's different legal tasks here. Namely that the focus of the AIVD's A and D tasks arising from the WIV2002 does not involve conducting research into the safety of an airspace. Since the C task, which is being referred to here, is an extension of the A task, it may have little or no relevant information related to the safety of flight routes.		The footnote refers to the Appendix in which this is explained.

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Ministry of The Interior and Kingdom Relations of The Netherlands	90	6.3	<p>After the sentence: 'in accordance with the AIVD's policy... intention (motives)' add: 'these factors offer an insight into the severity and the probability of a threat'. This makes it clear that the AIVD's efforts are linked to those of the NCTV and that the system is used of the Monitoring and Security system, of which conceivable threats are an integral component.¹</p> <p><i>1. For details, see the circular on monitoring and security accessible to the public (the new circular entered into force on 1 July 2015). https://zoek.officielebekendmakingen.nl/stcrt-2009-3324.html</i></p>		This part specifically refers to the AIVD and the MIVD. For a more comprehensive description, refer to Appendix T.
Ministry of Foreign Affairs of The Netherlands	94		Add nuance to 'The Dutch Safety Board... civil aviation'. The embassy in Kyiv performed its task properly. The information obtained was assessed in The Hague and used to arrive at the necessary conclusions.	At several points it is stated 'that no connection was made between risks the conflict posed to civil aviation'. Here also applies that the diplomatic service reported the information that was shared with it. This information was used to arrive at specific conclusions in The Hague, i.e. AIVD/MIVD: there were no indications/actual threat. See the AIVD/MIVD's wording on p. 92-93.	This concerns a factual representation of the communications. Moreover, the embassy reports concern not only a literal account of what was shared, but also a political and military interpretation thereof. Paragraph 8.4 explicitly states that identifying risks to civil aviation is not one of the embassy's or the defence attaché's tasks.
Ministry of The Interior and Kingdom Relations of The Netherlands	106	7.3	Firstly, it requires an integral risk assessment to be performed. Parties that view the conflict from a military or geopolitical angle should be more aware of potential secondary effects on civil aviation. Knowledge of the main flight routes could increase this awareness. Airlines that want to fly over a conflict area must take into account the potential risks posed by that conflict.	Airlines can conduct independent research in this respect.	The Dutch Safety Board agrees, but also sees a role for states in this, as described.
Ministry of Defence of The Netherlands	106		<p>In Chapter 7, on page 106, you state that domestic armed conflicts could pose a risk to civil aviation due to their unpredictability. The system of responsibilities and the risk assessment process are allegedly inadequately equipped in this respect. You then advocate more responsibility for states with regard to the safety of their airspace, but also expect other parties to make additional efforts. It is unclear whether you are alluding to an expansion of the AIVD and MIVD's statutory safety and intelligence tasks, such as conducting independent research into the safety of a foreign airspace and the safety of flight routes. However, an assessment of the threat to benefit the safety of civil aviation abroad includes more aspects than just the safety of the airspace at cruising altitude above ground. This especially concerns the safety on and near the take-off and landing locations and flying above sea.</p> <p>This would greatly expand the tasks of the intelligence services and therefore demand an increase in the existing intelligence capability. The proposed working method, which takes more account of possible threats, risk-increasing factors and conceivable scenarios could, in extreme cases, also lead to the closure and/or significant diversion of many flight routes. Consequently, it is unclear to us what recommendations you specifically have in mind.</p>		In Section 11, Recommendations, the required additional efforts of parties are addressed.
Ministry of Infrastructure and the Environment of The Netherlands	107	8	Here there is no context as to whether this was or was not compulsory (please outline the legal context).		The Dutch Safety Board's reference framework is not limited to the legal context (see Section 4.3).

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Ministry of Foreign Affairs of The Netherlands	107	8	Delete 'Consequently it was possible ...expanded'.	This conclusion could be made with the knowledge acquired with hindsight, but could have far-reaching consequences for Ukraine's potential liability and must therefore be formulated with care. See previous comments regarding that it cannot be ruled out that Ukraine had no reason to assume that civil aviation risked any danger.	The Dutch Safety Board draws its conclusions based on the signs that existed at the time, and the impact they should have had on the risk assessment at that time. Liability does not come into this.
Ministry of The Interior and Kingdom Relations of The Netherlands	108	8	The AIVD cannot agree with the conclusion formulated with regard to the Services' activities. As explained above, the Services also include the conceivable threat in the threat analyses they provide, in accordance with the system of the Circular on Monitoring and Security. Moreover, it is indicated above that a great deal of relevant information is publicly accessible and freely available to airlines, which can use it to arrive at their own considerations.		The Dutch Safety Board clarified the wording of these two points in the report. For the sake of completeness: the 'conceivable threat', according to the circular on Monitoring and Security, is also based on the factors of intention, potential and capability. The Board states that a risk can also be present if an intention or capability is unclear.
Ministry of Infrastructure and the Environment of The Netherlands	125	Appendix B	Reference is made here to an 'Aviation Security Manual', whereas ICAO refers to the 'National Civil Aviation Security Program'.		ICAO stipulates that every state must introduce a National Civil Aviation Security Programme. The 'Aviation Security Manual' specifies how the standards and recommendations of Annex 17 can be introduced in national legislation.
Ministry of Infrastructure and the Environment of The Netherlands	188	Appendix F	In accordance with ICAO Annexes 17 and 6, the focus in 'Flight Security' as it is referred to here is not only on the 'on the ground' but also on in-flight security.		The report points out that with regard to aviation security, the focus is on the ground. Above the figure it says: For airlines, Annex 17 predominantly provides provisions related to airport security or in-flight security. Security of flight routes through foreign airspace is not included in the provisions.

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USA/FAA	Overall Comments regarding: Operations Specifications	Overall Comments regarding: Operations Specifications		<ul style="list-style-type: none"> Assuming that neither the FAA nor the air navigation service provider managing the airspace has restricted or prohibited the use of particular airspace, in choosing routes of flight, US Air Carriers are required to adhere to their Operations Specifications (OpSpecs). In general, OpSpecs are not prohibitive; they allow operations within the requirements of the regulations in Title 14 CFR based on specific conditions and limitations. 14 CFR Part 121 Subparts E and F contain the requirements for Approval of Routes. §§119.49(a)(6),(b)(6) and (c)(4) (depending on the kind of operations conducted) state that the certificate holder must obtain operations specifications that list the areas of operations and, in some cases, routes. OpSpec B050 lists the authorized areas of en-route operation for the certificate holder. How the general areas are divided can be found in Order 8900.1, Volume 3, Chapter 18, Section 4 for B050. 	Too specifically U.S. legislation.

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USA/FAA	40	3.4	Non-concur with oversimplification of the graphic that presents Ukrainian military aircraft shot down by the Pro-Russian separatists. The graphic should include an altitude representation to more accurately represent and clarify the significant difference in threat conditions based on aircraft altitudes. As stated in the report, the separatists were known to be supplied/equipped with MANPADS and AAA weapons capable of engaging aircraft at lower altitudes. The separatists also had a demonstrated intent to target military aircraft conducting combat and combat support missions at lower altitudes. There was no indication (as stated in the report) the separatists had any intent to target civil aviation, and prior to July 17, there was no indication that they had any operational weapon system capable of targeting civil aviation at high altitude (e.g. MH17 at 33,000ft).	<p>The graphic as presented gives the false impression that all of the shoot downs were equal in circumstances. It fails to portray the significant altitude difference between the low altitude shoot downs of military aircraft conducting active combat operations or combat support operations (less than 21,000ft) and the higher altitude attack against a civil air carrier (MH17 at 33,000ft) flying a heavily travelled, well-defined overflight air route on a pre-coordinated commercial flight plan.</p> <p>The Ukrainian-issued NOTAMs in place effectively prohibited civil aviation in the altitude layers impacted by the lower altitude separatist weapons systems and the associated military aircraft shoot downs.</p>	<p>The figure only includes incidents that were confirmed by the Ukrainian authorities. The Ukrainian authorities provided an altitude indication for three of these incidents: An-30, An-26, Su-25.</p> <p>The Dutch Safety Board concludes that the airspace restrictions were inadequate for protecting civil aviation at greater altitudes against the weapons systems that, according to the Ukrainian authorities, were used on July 14 and July 16.</p>
USA/FAA	45	3.5	Add to the words 'Except for the FAA NOTAMs issued in the spring of 2014,' to the beginning of the following sentence, 'Despite the Western political and military focus on the conflict, its escalation and its air component, none of the politicians or authorities quoted publicly made a connection between the military developments in Eastern Ukraine and risks to civil air traffic.'	As written, the sentence inaccurately suggests that the FAA had made no public statements regarding hazards to civil aviation resulting from the conflict in Eastern Ukraine. The FAA issues flight advisories and flight prohibitions for U.S. civil aviation operating in airspace that the U.S. does not manage via NOTAM. Flight prohibition NOTAMs are followed up by flight prohibition SFARs, as appropriate. For the FAA, these documents are public statements and, in addition to publishing the information in the NOTAM system and, for SFARs, in the Federal Register, the FAA publishes information about its flight prohibitions and restrictions for U.S. civil aviation on the internet at http://www.faa.gov/air_traffic/publications/us_restrictions/ .	This paragraph concerns the interpretations of the conflict by politicians and diplomats, not FAA publications.
USA/FAA	47	3.7	This paragraph reflects inaccurate assumptions, as least so far as the U.S. is concerned, about the role of the diplomatic corps in addressing weapons-related hazards to civil aviation. In the U.S., it is the FAA's role, as the civil aviation authority, to make determinations about whether it is safe for U.S. operators and airmen to continue operating in particular airspace managed by another State, in coordination with other elements of the U.S. government, as appropriate.	Protection of civil aircraft from aviation safety hazards related to conflicts and other weapons-related situations has been and should remain a technical matter for civil aviation authorities and air navigation service providers to address, supported by those elements of their respective governments who provide them with information about risks to civil aviation, as opposed to a foreign affairs matter. We would recommend that the Dutch Safety Board consider carefully the potential negative impact on international aviation safety of making a technical aviation safety matter the focus of international political discussions between States.	The fact that civil aviation authorities do perform risk assessments of potential dangers posed to civil aviation by conflicts does not rule out diplomatic services' being able to pick up signals of such dangers and passing them on to relevant parties.

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USA/FAA	47	3.8 5.6 5.6	<p>Non-concur with the similar implication in the following sentences or statements, (pages 47, 80, 81)</p> <p>‘During the period from 1 March through 17 July 2014, foreign authorities and international organisations such as ICAO did not issue any specific safety warnings related to using the airspace above Eastern Ukraine. In diplomatic circles, no connection was made between the armed conflict and risks to civil aviation either.’</p> <p>‘The FAA did not issue a ban or any other warnings related to flying in the area above Eastern Ukraine.’</p> <p>‘Insofar as the Dutch Safety Board was able to ascertain, between the end of April and 17 July 2014 no States issued any formal warnings about the safety of the airspace in Ukraine, let alone about the airspace above Eastern Ukraine. It was precisely during this period that the conflict spread to the air.’</p> <p>These statements imply the FAA took no action to safeguard civil aviation in eastern Ukraine during the time period prior to the MH17 incident.</p>	<p>This is an inaccurate implication with regards to the FAA and the United States.</p> <p>The FAA actively monitored the conflict in eastern Ukraine for any indication of change in the potential threat to U.S. civil aviation in order to determine whether any action by the FAA was necessary. The FAA along with other U.S. Government agencies monitored and analysed the conflict for any indications that new separatist or Russian anti- aircraft weapons were introduced or if there was an indication of possible hostile intent toward civil aviation. The FAA also monitored Ukrainian-issued NOTAMs to ensure that the steps being taken by Ukraine, as the State responsible for providing air navigation services, were sufficient to address the risks to U.S. civil aviation.</p> <p>The FAA did issue NOTAMs in the spring of 2014 that advised of hazards to U.S. civil aviation in all of the Ukrainian FIRs. However, the FAA determined that there was no need to take additional action between the time that it issued the second of the two April 2014 NOTAMs and the crash of MH17, since there were no indications of a significant change in threat levels to U.S. civil aviation during that time in airspace not already addressed by existing Ukrainian NOTAMs (e.g. geographic-based altitude restrictions). Based on the information available to the FAA at the time, the Ukrainian NOTAMs provided sufficient protection for U.S. civil aviation for the assessed threat level.</p>	<p>The wording has been specified to the period during which the conflict expanded to the airspace. In this period, not a single state, for as far as the Dutch Safety Board was able to ascertain, explicitly warned its operators and pilots that the airspace above the conflict zone was increasingly unsafe, nor did they issue a flight prohibition. This was also the case when, according to the Ukrainian authorities, the shooting-down of an Antonov An-26 on 14 July 2014 and that of a Sukhoi Su-25 on 16 July 2014 occurred while these aeroplanes were flying at altitudes beyond the effective range of MANPADS. The weapon systems mentioned by the Ukrainian authorities in relation to the shooting down of these aircraft can pose a risk to civil aeroplanes, because they are capable of reaching their cruising altitude.</p>
USA/FAA	109	8	<p>Non-concur with the statement, ‘None of the aviation parties involved adequately identified the risks that the armed conflict in Eastern Ukraine posed to civil air traffic flying overhead. No integral risk assessment was performed.’</p>	<p>This is an inaccurate statement with regards to the United States. The FAA and other U.S. Government agencies continually monitor conflict areas for potential threats to U.S. civil aviation and conduct ongoing risk assessments to determine whether mitigation action is needed and what mitigation actions are appropriate for the circumstances. The conflict was continually monitored for anti-aircraft threats and how they might impact U.S. civil aviation. The series of FAA-issued NOTAM/SFAR advisories and prohibitions were issued as a result of U.S. civil aviation safety/security concerns associated with the conflict. In alignment with FAA’s safety oversight responsibility, FAA also monitored the NOTAMs issued by Ukraine associated with the conflict to determine if those advisories/prohibitions were adequate for protecting U.S. civil aviation within Ukrainian-managed airspace.</p>	<p>See above.</p>
USA/FAA	109	8	<p>Non-concur with the statements, ‘None of the other parties involved - the airlines, the States of the Operators or third parties such as ICAO - identified potential risks that the conflict in Eastern Ukraine posed to civil air traffic’ and ‘The States that did gather information about the conflict in Eastern Ukraine focused on its potential geopolitical and military-strategic consequences and not on its possible impact on civil aviation.’</p>	<p>Same as above. This is an inaccurate statement with regards to the United States. The FAA and other U.S. Government agencies specifically monitor, assess, and implement mitigating actions in response to civil aviation safety/security concerns. This is done in alignment with a Presidentially-directed National Strategy for Aviation Security (March 2007) as it applies to the global air domain to ‘use the full range of its assets and capabilities to prevent the Air Domain from being exploited by terrorist groups, hostile nation-states, and criminals to commit acts against the United States, its people, its infrastructure, and its other interests. Second, the Nation must ensure the safe and efficient use of the Air Domain. Third, the Nation must continue to facilitate travel and commerce.’</p>	<p>See above.</p>

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USA/FAA	109	8	The system that is intended to ensure the safety of civil aviation is not sufficiently equipped for identifying and assessing the risks that armed conflicts within States pose to civil aviation.	Conclusion is based on a false premise that coordination beyond basic safety risk does not exist in some States. The FAA consistently collaborates with other U.S. Government agencies to ensure that the identification and assessment of risk posed by armed conflicts is factored into the evaluation of risk to U.S. civil aviation.	This conclusion concerns the system of responsibilities and therefore goes further than a country's working method. With regard to the situation in the United States, the FAA says that there were no indications of a significant change in threat levels. Based on the analysis in its report, the Dutch Safety Board concludes that there were indeed developments that implied a change in the threat level.
USA/FAA	143	Appx D	1980 DC-9 Aerolinee Itavia flight 870, crashed in the Tyrrhenian Sea on 27 June 1980. On 23 January 2013, the highest Italian legal authority ruled that there was clear evidence that it had been shot down by an anti-aircraft missile.	The cause of this crash has never been definitively determined from a technical perspective; suggesting the cause was a SAM is speculative for this report.	This section does not specifically refer to a surface-to-air missile (SAM), but to an anti-aircraft missile, which can also be an air-to-air missile. The fact that no technical report was published does not mean that there was no evidence of a shoot-down.
USA/FAA	187	Appx F	There was also the idea that some authorities possessed threat-related information that they could or should have shared.	Prior to the MH-17 shootdown, the FAA did not have any information to suggest the presence in Eastern Ukraine of a separatist controlled SA-11 or any other SAM system capable of targeting aircraft in Eastern Ukraine (Dnepropetrovesk FIR) above the flight level of FL320 identified in the Ukrainian NOTAM. At the time, the FAA maintained a flight prohibition for US operators, US- registered aircraft and US-certificated airmen for the Simferopol FIR due to contested airspace between Ukraine and Russia. FAA did provide US air carriers classified threat briefings on the conflict in Eastern Ukraine to include man-portable air defense systems (MANPADS) shootdowns of Ukrainian military aircraft. It also confirmed that no US operators were flying at altitudes that could be engaged by MANPADS.	General statement; no specific parties are mentioned here.
USA/FAA	195	Appx F	In other countries, airlines revealed that they had to request information and verify it using their own network. In these cases, the contacts are often informal and personal, unstructured and not institutionalised.	While this can promote the free exchange of threat information, it also can perpetuate bad information if the source is not known or vetted by intelligence or other knowledgeable government entity (e.g. Following MH-17 shootdown there was reporting in air carrier channels of an alleged ISIL SA-11 threat in Iraq that was incorrect.)	It is up to the relevant parties to check information for correctness as much as possible.
USA/FAA	203	Appx F	Civil aviation played no role in these analyses. This explains why they did not make a connection between the possible presence of powerful surface-to-air missiles and risks to air traffic flying over the area.	This is inaccurate. NOTAMs were issued by countries regarding the threat situation and the possible impact to civil aviation. FAA began warning in March 2014 when it issued Advisory NOTAM regarding the potential risk from military activity to U.S. civil aviation in the five Ukrainian FIRs as a result of the separatist unrest and deepening crisis. FAA later issued a flight prohibition NOTAM for Simferopol FIR in April 2014 which was subsequently incorporated into SFAR-113. However, there was no information to suggest that operational high altitude SAMs were in the hands of the separatists or that the separatists had an intent to threaten civil aviation; and therefore this specific threat (high altitude SAM) was not identified in the FAA-issued NOTAMs or SFAR.	The NOTAM from March has been incorporated in the report. The later NOTAMs did not specifically concern the eastern part of Ukraine and no longer referred to military (air) activities. The FAA did not issue any new NOTAMs during the period in which the conflict expanded to the airspace.

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Russian Federation	35	3.1	This chapter describes information that the Dutch Safety Board found in public and closed sources, related to the situation in Eastern Ukraine during the period between 1 March and 17 July 2014. Were there events and developments prior to the crash of flight MH17 that States or airline could have interpreted as signals of a possible decrease in the safety of the airspace above the area and thus of an increasing risk to aircraft flying over it?	<p>General comment to section 3 of the report: The report uses multiple references to the sources of information mainly limited by the statements of the US, NATO and Ukraine officials, which were not proved by any documents. The report does not mention the materials from the briefing held by the Russian Ministry of Defense (the link is given below) which presented the objective facts, characterizing the threats to safety of civil aviation flights observed before the crash on July 17, 2015.</p> <p>http://www.mid.ru/brp_4.nsf/newline/f6c3bbd89ac2532d44257d1d00203ccf</p> <p>It is necessary to complement the report with the data provided by the Russian Ministry of Defense regarding MH17 crash.</p>	The briefing referred to in the comment was held on 21 July 2014, four days after the crash. The section concerns signals prior to the crash.
Russian Federation	36	3.3	<p>Following Crimea's accession to the Russian Federation, the Russian Federation issued NOTAMs for the Simferopol FIR (Crimea), in which a Russian air navigation service provider for Crimea was introduced. At the same time, the Ukrainian air navigation service provider issued NOTAMs for that area, which contradicted this message. This was followed by more NOTAMs from Ukraine as well as from the Russian Federation. The situation thus created led to the possibility that civil air traffic over the area would receive conflicting instructions, as the various NOTAMs made it clear that there were two air navigation service providers that both claimed responsibility for air traffic management. This could present a risk to the safety of air traffic due to possible conflicting instructions.</p> <p>On 2 April 2014, ICAO published a State Letter (EUR/NAT 14-0243.TEC (FOL/CUP)) in which Member States were informed of the potential risks to the safety of civil flights in the Simferopol FIR, as a result of the conflicting instructions: 'Due to the unsafe situation where more than one ATS provider may be controlling flights within the same airspace from 3 April 2014, 0600 UTC onwards, consideration should be given to measures to avoid the airspace and circumnavigate the Simferopol FIR with alternative routings'.</p> <p>Also on 2 April, and in response to the ICAO State Letter, the Network Manager at EUROCONTROL urgently recommended that airlines avoid Crimean airspace (the Simferopol FIR) and select alternative routes. On 3 April 2014, EASA issued a Safety Information Bulletin (SIB), in which EASA highlighted ICAO's warning.</p> <p>In the State Letter, ICAO also announced it that would closely monitor the developments together with all parties to detect any potential dangers to civil aviation: 'ICAO continues to actively coordinate with all involved authorities, international organizations, airspace users and other States in the region regarding developments as they unfold, specifically those which could impact flight safety.'</p> <p>However, during the period between 2 April through 17 July 2014, the period during which the armed conflict in Eastern Ukraine broke out and intensified, ICAO did not refer again to the situation in Ukraine.</p>	<p>Proposed text:</p> <ol style="list-style-type: none"> Delete this text from the report. Delete all references to the ICAO Letter EUR/NAT 14-0243.TEC (FOL/CUP) of April 2, 2014 on 'Safety of civil aircraft operating in the Simferopol Flight Information Region (FIR)' as having no relation to the review of flight safety issues over the armed conflict zone in Dnepropetrovsk FIR. <p>Argumentation:</p> <ol style="list-style-type: none"> The crash of MH17 occurred in Dnepropetrovsk FIR. Simferopol FIR has no relation to Dnepropetrovsk FIR covering the territory of Eastern Ukraine both before and after ICAO letter of April 2, 2014. In the flight safety report, Simferopol FIR is associated with the events in Eastern Ukraine (Dnepropetrovsk FIR) for no reason at all. This conclusion from the standpoint of international civil aviation and ICAO standards is not supported and substantiated by any facts at all. The report completely distorts the idea of ICAO letter of April 2, 2014. The contents of item 3 of ICAO letter of April 2, 2014 unambiguously indicates that ICAO decision was not related to the threats arising from the armed conflict zone requiring the action in accordance with the recommendation of ICAO Doc 9554. 	The developments in Crimea were relevant to understanding why it was prohibited to fly over Crimea, which affected decision-making pertaining to flight routes over the eastern part of Ukraine.

State/ Organisation	Page	Section / Paragraph	Text to be corrected (first ... last word)	Argumentation / substantiation	Dutch Safety Board response
Russian Federation	41, 42	3.4	<p>On 14 July, three days prior to the crash of flight MH17, a Ukrainian air force transport aeroplane, an Antonov An-26, was shot down in the Luhansk region, killing two members of the crew. On the same day, Ukraine's National Security and Defence Council (RNBO) published a press release that Stated that the aircraft was flying at an altitude of 6,500 metres when it was hit (see the box for the text, literally translated into English). Given this altitude, according to the Ukrainian authorities the aircraft must have been hit by a 'more powerful weapon' than a MANPADS. The Ukrainian government assumed there were two possibilities, either a modern 'Pantsir' anti-aircraft system or an 'X-24 air-to-air missile' that was allegedly fired from a Russian aeroplane. Both weapons systems could most probably reach civil aeroplanes at cruising altitude, but this risk was not mentioned by the Ukrainian authorities (see also chapter 4).</p> <p>{...}</p> <p>According to a press release of 15 July 2014, a committee was to investigate the causes of the crash and report on the matter. However, no indications were identified that established that the results of this investigation were later published. In December 2014, President Poroshenko did award a posthumous medal to the pilot of the AN-26, who died in the incident. The corresponding press release States that the aeroplane was hit by an air-to-air missile. It is relevant to the investigation into the crash of flight MH17 that none of the public communications established a connection with risks to civil air traffic.</p>	<p>Proposed text: Delete this text from the report and replace it with the following:</p> <p>'On April 14, 2014 the crash of Ukraine Armed Force Antonov-26 aircraft occurred in the area of Lugansk. Ukrainian authorities did not investigate the Anotnov-25 crash and the causes of this accident therefore remained unclear. The statement of Ukrainian officials on the circumstances of this crash contained the information which was both contradictory and unconfirmed in by other sources and therefore could not be used for risk assessment of civil aircraft flights in the conflict zone. No relation between Boeing 777-200 (MH17) crash and Antonov-26 crash was identified during the investigation. The hostilities in the territory of Ukraine had already taken place before Antonov-26 crash, which required the Ukrainian authorities responsible for provision of air traffic services to assess the hazards for civil aircraft flights and determine whether it was necessary to restrict flights in the conflict zone or continue flight operations with due regard to the certain conditions as stipulated by item 10.3 of ICAO Doc 9554. After the Antonov-26 crash, Ukrainian authorities did not evaluate the flights safety risks over the armed conflict zone for civil aircraft and did not take necessary measures to fully close the airspace over Eastern Ukraine. This is an additional confirmation to the fact that irrespective of the statements of Ukrainian officials the Antonov-26 was not hit by 'heavy' anti-aircraft weapon system or air-to-air rocket shot by an unknown aircraft. The provision of a priori untrustworthy and distorted information by the official authorities of Ukraine with the reference to a non-existing weapon system of the Russian manufacture i.e. «X-24 air-to-air missile» could have misinformed ICAO, other States as well as the airlines during the planning of flights over the armed conflict zone'.</p> <p>Argumentation:</p> <ol style="list-style-type: none"> 1. The Antonov-26 crash of July 14, 2014 in the area of Lugansk is mentioned throughout the report exclusively as an indirect confirmation of use of 'heavy' anti-aircraft weapon system in the armed conflict zone creating the threat to safety of civil aviation. No evidence of any relation between July 14 (Antonov-26) and July 17 (Boeing 777-200) events has been identified during the investigation. The official documents received in the course of investigation do not provide any single proof of the Russian Federation's involvement in Antonov-26 crash. 2. The report does not consider the issue of deliberately distorting the information on Antonov-26 crash by Ukrainian authorities which repeatedly confirmed in other sections of the report including the data from the Dutch Intelligence (section 6.4.2 of the report). In the report the Antonov-26 crash is presented as the only circumstance which should have encouraged the complete prohibition of flights over Eastern Ukraine beforehand. However, the very fact that Ukrainian authorities did not take adequate measures should have aroused mistrust to the information they provided. <p>The report should consider a deliberate misleading information on part of Ukrainian authorities as one of the risk for the civil aviation in taking the decision on flights over the armed conflict zones.</p>	The report reflects what the Ukrainian authorities reported about the incident. The reports about the altitude and possible weapons used are relevant to gaining insight into the decision-making process related to airspace management.

State/ Organisation	Page	Section / Paragraph	Text to be corrected (first ... last word)	Argumentation / substantiation	Dutch Safety Board response
Russian Federation	43	3.5	Public interpretations of the conflict by politicians and diplomats.	<p>Proposed text: Exclude completely this section from the report as politically biased and having no direct or indirect relation to the investigation objectives established by Annex 13 to the Chicago Convention.</p> <p>Argumentation:</p> <ol style="list-style-type: none"> 1. In accordance with Standard 3.1, Annex 13 to the Chicago Convention, the sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability. The objective of the MH17 crash investigation is not to establish the reasons and analyze the development of the conflict in Lugansk and Donetsk regions of Ukraine. The contents of section 3.5 do not contain any analysis which could substantiate the recommendations on flight safety. The section 3.5 does not meet the standard 3.1 of Annex 13 to the Chicago Convention. 2. The section 3.5. reviews the statements of US politicians and NATO officials. The idea of all these statements is that the Russian Federation's Armed Forces reportedly participate in the conflict in Eastern Ukraine. However, the report is missing any statements from the officials of the Russian Federation that repeatedly pointed out at the direct safety threats arising from the armed conflict in Eastern Ukraine 3. The list of reference to the statements of the officials is done lop-sided without regard to the fact that the investigation shall answer the question as to why the Ukrainian authorities did not close the airspace over the conflict zone before July 17, 2014? <p>In this connection for instance it would be worthwhile drawing attention to the statement of Vladislav Seleznev, a Ukraine spokesman for the antiterrorist operation (please see the reference link below) made on July 12, 2014 on putting on highest alert Ukraine's Air Defense forces (highest degree of application readiness).</p> <p>https://www.facebook.com/vladislav.seleznev.94/posts/467802786689783?pnref=story</p> <p>Also publicly available is the information broadcast on July 16, 2014 by the Official video hub of TV & radio studio of the Ministry of Defense of Ukraine on the use of BUK-M1 anti-aircraft weapon system for airspace control over the anti-terrorist operation zone in Eastern Ukraine: https://www.youtube.com/watch?v=Q3MomxNHnUA</p> <p>This statement and information from Ukraine Ministry of Defense coincide with the data of the Russian Ministry of Defense presented on July 21, 2014 on movement and intensified activity of BUK-M1 anti-aircraft weapon systems of Ukraine Armed Forces in the conflict zone.</p>	The public statements are important for obtaining an idea of the context in which the decision-making process about the flight route and airspace management was organised.

State/ Organisation	Page	Section / Paragraph	Text to be corrected (first ... last word)	Argumentation / substantiation	Dutch Safety Board response
Russian Federation	45	3.6	Reports in the media related to possible available weaponry capacity.	<p>Proposed text: Delete completely this section from the report as politically biased and having no direct or indirect relation to the objectives of the investigation as established by Annex 13 to the Chicago Convention.</p> <p>Argumentation: The respective argumentation is given in the comments to section 3.5 of the report.</p>	This paragraph is necessary to provide an effective overview and understanding of the circumstances that could have contributed to an assessment of the risks to civil aviation.
Russian Federation	45	3.7	Non-public sources.	<p>Proposed text: Delete completely this section from the report as politically biased and having no direct or indirect relation to the objectives of the investigation as established by Annex 13 to the Chicago Convention.</p> <p>Argumentation: The respective argumentation is given in the comments to section 3.5 of the report.</p>	See above.
Russian Federation	47	3.8	Sub-conclusions.	<p>Proposed text:</p> <ol style="list-style-type: none"> 1. Change the date indicated in item 1 and 3 from April 1 to April 14. 2. State item 4 as follows: 'The cause of the Antonov-26 crash has not been identified' The review of the statements made by Ukrainian authorities on the causes of the Antonov-26 crash raises doubts about their trustworthiness. There are no objective evidences that the Antonov-26 crash was a result of it being hit by weapon. After the Antonov-26 crash, the Ukrainian authorities did not take any measures to completely ban flights of civil aircraft over the conflict zone'. 3. It is necessary to add one more conclusion: '5. The circulation of a priori untrustworthy and distorted information by the Ukrainian authority regarding the situation in Eastern Ukraine was creating additional uncertainty concerning the decision-making on continuation of flights over the armed conflict zone'. <p>Argumentation:</p> <ol style="list-style-type: none"> 1. The starting point for the armed conflict in Eastern Ukraine shall be considered April 14, 2014 i.e. the issuance of Ukraine President's Decree N 405/2014 'On the decision of the National Security and Defense Council of April 13, 2014 on the immediate actions on overcoming the terrorist threat and saving the territorial integrity of Ukraine'. 2. In the course of the MH17 crash investigation by the international commission established in accordance with Annex 13 to the Chicago Convention, there was received no trustworthy information on the circumstances and causes of Antonov-26 crash on July 14, 2014 in the area of Lugansk. 3. The information contained in the report indicates that Ukrainian authorities did not provide any trustworthy information on the actual risks and threats to the safety of civil aircraft flights over the conflict zone in Eastern Ukraine. 	What the Ukrainian authorities, as the airspace manager, established with regard to the events surrounding the Antonov An-26 is relevant. The Dutch Safety Board does not provide any political interpretation of these events.

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Russian Federation	62	4.6	<p>Since the actual management of the airspace above Eastern Ukraine was the responsibility of the Ministry of Defence, the civil air navigation service provider, UkSATSE, was no longer able to effectively fulfil its role. However, the dominance exercised by the Ministry of Defence did not release the responsible people at the civil air navigation service provider from their obligation to ensure the safety of civil air traffic. UkSATSE and SASU Stated that they were not aware of the substantive reasons for the airspace restrictions. Despite the lack of information, the civil aviation authorities were of the opinion that it was not necessary to avoid the conflict area and that use of the airspace could continue subject to the conditions of the cited altitude restrictions. However, since they did not possess any information and the decisions made by the military traffic control were not up for discussion, it was not possible for UkSATSE and SASU to assess the military considerations. As a result, they were not able to perform any assessments of their own regarding the safety of civil air traffic.</p>	<p>Proposed text: After this text, add the following:</p> <p>«Pursuant to the information of the Russian Ministry of Defense presented at the official briefing on July 21, 2014, on the date of Boeing 777 crash, the Ukraine Air Defense command in the vicinity of Donetsk had at least three - four divisions of BUK-M1 anti-aircraft weapon systems which were capable of hitting targets at the range of 35 kilometers and at heights of up to 22 kilometers. By July 17, 2014 the activity of Ukraine radar stations 9S18 Kupol-M1 of BUK-M1 anti-aircraft weapon systems was at maximum. Thus, if on July 15, 2014 there were 7 active stations, then on July 16 there were 8 and on July 17, 2014 there were 9. Starting from July 18, 2014 the activity of these radar stations sharply decreased and equaled to 2-3 per day.</p> <p>The reason for deploying such strong air defense command by the Ukrainian Armed Forces in the vicinity of Donetsk remains unknown. For example one of the justification for their deployment in the conflict zone could be an exercise or an actual application against aerial targets. In this case, in accordance with item 3.2 of ICAO Doc 9554 such military activity creates a potential threat to the civil aircraft and therefore requires an appropriate coordination with ATS services of Ukraine.</p> <p>Further on July 17, 2014 neither primary radar data at Dnepropetrovsk ACC nor primary radar data from Ukraine's Air Defense was available, which created additional risks unaccounted by Ukraine's authorities in case of possible disruptions on the ground or onboard the aircraft flying over the armed conflict zone.</p> <p>Thus, the military authorities and Ukraine's Air Traffic Service units did not coordinate their activities during deployment of heavy anti-aircraft weapon system of Ukraine's Air Defense (BUK-M1) in the conflict zone as well as in the view of temporary unavailability of primary radar data from both Dnepropetrovsk ACC and Ukraine's Air Defense, did not assess the risks and did not take additional safety measures as required by Annex 15 to the Chicago Convention and ICAO Doc 9554.'</p> <p>Argumentation:</p> <ol style="list-style-type: none"> 1. In accordance with items 10.2 and ICAO Doc 9554 the State providing air traffic services in the airspace affected by a conflict shall bear the responsibility for taking special measures aimed at ensuring safety of international flights of civil aircraft. Ukraine was responsible for taking such measures. 2. This section makes an analysis only with regards to answering the question whether the opposition forces possessed 'heavy' types of weaponry capable of destroying aircraft at high altitudes. No consideration is given to an accidental rocket launch by Ukraine's Armed Forces in this section. Tough such risk can not be excluded and it is assumed in section 7.3.3 of the report. 	The proposed text is too far removed from the quoted text.

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				<p>3. This section of the report does not mention the presence of Ukraine's Armed Forces BUK-M1 anti-aircraft weapon systems in the conflict zone. The objective data indicating this fact presented by the Russian Ministry of Defense are not mentioned in this section. The report does not either investigate the reasons for deploying BUK-M1 in the conflict zone as well as the probability of their use.</p> <p>4. This section does not consider the risk of an accidental (due to improper operation or other factors) launch of Ukraine's Air Defense rocket against an aerial target, while there was such a precedent in the past when Ukraine Armed Forces accidentally shot down Sibir Airlines Tupolev 154 in 2001'. Such risk should be separately evaluated in the report considering the data presented at the briefing of the Russian Ministry of Defense and intensification of Ukraine's Air Defense's activity a few days before the crash.</p>	
Russian Federation	64	4.7	The NOTAMs issued by the Ukrainian authorities also lacked background information about the military nature of the decisions. Therefore, users of the airspace were not informed about the underlying reasons for the altitude restriction. As a result, the Ukrainian NOTAMs did not draw their attention to the need to perform their own risk assessment with regard to use of the airspace above the conflict area in Eastern Ukraine. Chapter 5 discusses the decision-making process related to the use of the airspace.	<p>Proposed text: Insert the following text after this text:</p> <p>«When introducing flight restrictions below FL260 and then below FL320, the Ukrainian authorities did not develop and publish the special procedures for the event covered by bullet 'e' of item 3.9. ICAO Doc 9554 (coordination in the event of aircraft emergencies aircraft or other unforeseen circumstances)'.</p> <p>Argumentation: In accordance with the recommendation of item 3.1., ICAO Doc 9554 Coordination between the responsible military authorities and the appropriate ATS authorities is essential to the safety of civil aircraft operations whenever activities potentially hazardous to such operations are planned and conducted by any military units. Pursuant to item 3.9 ICAO Doc 9554 the objective of the normal co-ordination process should be to reach agreement on coordination in the event that civil aircraft emergencies or other unforeseen circumstances require discontinuation of the activities or parts thereof.</p>	The special procedures that are referred to involve the possibility of stopping a military exercise in the event that an aeroplane is in distress. This is clearly a provision for air operations in peace time.
Russian Federation	66	4.7	4. The weapon systems that the Ukrainian State reported in relation to the Antonov An-26 being shot down on 14 July 2015, could represent a danger to civil aeroplanes because these weapons can reach aeroplanes cruising altitude. However, this connection was not made and the airspace was not closed as a precaution.	<p>Proposed text: Add the following to this text:</p> <p>'There are no sufficient grounds to consider the information on Antonov-26 being shot down to be objective and substantiated'.</p> <p>Argumentation: The different sources of information used in the report actually show that Anotonov-26 could not have been shot down by 'heavy' anti-aircraft weapon systems.</p>	The Dutch Safety Board was not able to verify the exact event, but deems this report by the Ukrainian authorities relevant to the risk assessment by Ukraine.

State/ Organisation	Page	Section / Paragraph	Text to be corrected (first ... last word)	Argumentation / substantiation	Dutch Safety Board response
Russian Federation	76	5.5	Malaysia Airlines says it was not aware of SFAR 113, issued by the American aviation authority (Federal Aviation Administration, FAA), dated 23 April 2014. In this safety warning, the FAA banned American operators and pilots from flying over Crimea.	<p>Proposed text: Delete this text from the report.</p> <p>Argumentation: There are no binding requirements for the airlines to familiarize with the internal documents of other States given that ICAO letter on Simferopol FIR was issued 20 days before the FAA Directive. Besides the report lacks the logical link between the need to jointly consider the decision on introduction of flight restrictions in Eastern Ukraine and the use of Simferopol FIR (which had no armed conflict).</p>	The developments in Crimea were relevant to understanding why it was prohibited to fly over Crimea, which affected decision-making pertaining to flight routes over the eastern part of Ukraine.
Russian Federation	78	5.6	The statement made by the Ukrainian authorities with regard to the Antonov An-26 being shot down on 14 July, which referred to long-range anti-aircraft missiles that can reach cruising altitude, also did not constitute a reason for issuing a new State Letter.	<p>Proposed text: State the text as follows:</p> <p>‘The unjustified and unconfirmed statements of the Ukrainian authorities regarding the Antonov-26 aircraft on July 14, 2014 could not become the basis for issuing a respective ICAO State letter’».</p> <p>Argumentation: ICAO should not take decisions based on unverified and unconfirmed information whatever sources it may come from.</p>	The fact that the Ukrainian authorities reported it as such makes it relevant to an assessment of the risk analysis by Ukraine. ICAO could have sought verification from Ukraine of these reports.
Russian Federation	78, 79	5.6	ICAO stated that it did not receive any request for advice from Ukraine pertaining to the possibility of taking safety measures. With regard to the possibility of assisting a landing in the event of an armed conflict, ICAO Doc 9554-AN/932, par. 10.10 says: ICAO may assist in the development, co-ordination and implementation of necessary safety measures in the event that the State(s) responsible for the provision of air traffic services in an area of armed conflict cannot, for some reason, adequately discharge the responsibility referred to in 10.2 above. The specific nature and scope of such action will depend upon the particular circumstances involved. In such circumstances, ICAO will work in close coordination with the responsible State, with other provider and user States concerned, and with IATA and IFALPA.	<p>Proposed text: Insert the following after this text:</p> <p>‘As can be seen from the analysis of situations in other armed conflict zones shown in section 4.5 of the report, ICAO has never used the practice of issuing recommendations or restricting civil aircraft flights in these countries. Consequently, while having the possibility as described in item 10.10 ICAO Doc 9554, to offer Ukraine its assistance to develop and implement necessary measures in Eastern Ukraine, ICAO acted passively and did not take any necessary steps in this area. Thus, Boeing 777-200 (MH17) crash shall be viewed with regards to the fact that ICAO lacks leverages encouraging States to accomplish coordination between the military and civil authorities to comply with the requirements of the Chicago Convention and ICAO Doc 9554.’</p> <p>Argumentation: The outcomes of the investigation indicate that Ukraine’s military and civil authorities did not comply with the recommendations of ICAO Doc 9554. This led to the appearance of risks to flights of civil aircraft over the armed conflict zone in Eastern Ukraine. In this situation after July 14, 2014 based on the recommendations of item 10.10 ICAO Doc 9554, ICAO could have taken a more active stance in implementing ICAO objectives as stated in part ‘h’ of Article 44 of the ICAO convention i.e. foster the safety of flights and international navigation.</p>	This point is already addressed in a different manner in Section 6.

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Russian Federation	81	5.6	As described in chapter 3, the defence attachés in Kyiv held regular consultations on the situation in Eastern Ukraine, as part of NATO and in a broader context. Their focus was on military activities and primarily those on the ground. The information that the Ukrainian authorities provided during a briefing with diplomats about the shoot-down of an Antonov An-26, was also viewed from this perspective (see chapter 3). The same applied to the information which the NATO possessed about military developments and the build-up of weapons in and around the conflict area, which were partly brought to light by Supreme Commander Breedlove. Consequently, information that had been gathered and shared did not constitute a reason for States to warn civil aviation.	<p>Proposed text: Delete this text from the report and replace it with the following:</p> <p>‘Reaction of any State can be based only on the verified and confirmed information on the possible risks and threats. The statement of Ukraine’s authorities that Anotonov-26 was shot down by a long-range rocket (ground-to-air or air-to-air) was not accompanied by any evidences or respective steps to completely close the airspace over the armed conflict zone for civil aircraft which raised objective doubts on the trustworthiness of these conclusions.</p> <p>Argumentation: There are no objective evidences that the Antonov-26 was shot down.</p>	The Dutch Safety Board was unable to verify the circumstances surrounding the crash of the Antonov An-26. If the Ukrainian authorities issued their own reports about it, this is mentioned in the text. The weapon systems cited by RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report relevant to the risk assessment by Ukraine.
Russian Federation	86, 87	5.9	1. Insofar as the Dutch Safety Board has been able to ascertain, no airline altered its route for safety reasons related to the conflict in Eastern Ukraine, not even as a result of the Antonov An-26 being shot down on 14 July 2014, possibly with a weapons system that could reach cruising altitude, as suggested by the Ukrainian authorities. Data supplied by EUROCONTROL revealed that from 14 through 17 July, 62 airlines from 32 countries used the airspace above Eastern Ukraine. The airlines did not view developments on the ground as a threat to their safety when flying overhead.	<p>Proposed text:</p> <ol style="list-style-type: none"> 1. Add a new conclusion before this conclusion (change the numbering of the conclusions) as follows: <p>‘1. As DSB could find out, Ukraine’s authorities did not issue respective NOTAMs as stipulated by Annex 15 to the Chicago Convention and recommendations of ICAO Doc 9554 confirming the hazard of flying over the armed conflict zone in Eastern Ukraine’.</p> 2. This conclusion (lines 39 - 42) shall be paraphrased as follows: 3. ‘Ukrainian authorities did not take all necessary measures aimed at ensuring safety of civil aircraft in the airspace of Dnepropetrovsk FIR after the Antonov-26 crash on July 14, 2014 and deployment of BUK anti-aircraft weapon systems by Ukrainian Armed Forces in the conflict zone. Meanwhile, the regular references to the Antonov-26 crash, including in the preliminary conclusions were based on unproved statements of the Ukrainian officials that were in contradiction with their further actions (inactions) with respect to exclusion of risks to ensure safe air traffic in Dnepropetrovsk FIR’. <p>Argumentation:</p> <ol style="list-style-type: none"> 1. The conclusion is based on the false statement that Antonov-26 was hit by a ‘heavy’ anti-aircraft weapon. No evidence was presented either at the moment of the crash or afterwards confirming that the Anotonov-26 was indeed shot down by a long-range air-to-air or ground-to-air rocket. 2. The report does not consider the possibility of deliberate misinformation or disclosure of partial or unverified information by Ukraine’s military authority. The lack of further steps by Ukraine’s aviation authorities aimed at full closure of the airspace over the conflict zone underlined the fact that the information on Antonov-26 crash was not trustworthy. 	The Dutch Safety Board was unable to verify the circumstances surrounding the crash of the Antonov An-26. If the Ukrainian authorities issued their own reports about it, this is mentioned in the text. The weapon systems cited by RNBO can hit aeroplanes at higher altitudes. The Dutch Safety Board deems this report relevant to the risk assessment by Ukraine.

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				3. As indicated in the report, Ukraine was issuing NOTAMs to ensure restriction-free flying of Ukraine's Air Force below FL320 rather than preventing the threat of shooting down the civil aircraft from the ground or in the air which also confirms the untrustworthiness of the statements made on the Antonov-26 crash. All the information both from official and unofficial sources provided in the DSB report indicates that the opposition forces at Lugansk and Donetsk regions of Ukraine did not possess ground-to-air rockets able to hit high-flying targets.	
Russian Federation	87	5.9	3. Airlines and the States in which the airlines are based did not realise that the armed conflict in Eastern Ukraine constituted a potential threat to civil aviation. They assumed that the open airspace (above FL320) was safe. This was despite the fact that the conflict was increasingly spreading to the air and the possible presence of weapon systems that could reach civil aeroplanes at cruising altitude.	<p>Proposed text: Delete the following words from the last sentence: «and the possible presence of weapon systems that could reach civil aeroplanes at cruising altitude».</p> <p>Argumentation: The only factor that could indirectly indicate a potential risk for flights of civil aircraft was the deployment of BUK type anti-aircraft weapon systems by Ukraine authorities in the conflict zone on the ground of conducting exercises or protection of their airspace. Nevertheless the information on the deployment of weapon systems was not considered by Ukraine authorities as the basis for safety considerations under Annex 15 and recommendations of ICAO Doc 9554. Ukraine authorities did not either issued a respective NOTAM based on this information which did not allow the airlines and other States taking adequate safety measures well beforehand.</p>	The conclusion refers to reports by the Ukrainian authorities about the weapon systems used. The Dutch Safety Board deems this report relevant to the assessment of the risk analysis by Ukraine.
Russian Federation	96	6.4.2	In addition to the Separatists, two other parties were involved in the conflict in Eastern Ukraine, namely the Ukrainian armed forces and the Russian armed forces.	<p>Proposed text:</p> <ol style="list-style-type: none"> Delete this text. In the text of the report the term 'separatists' shall be replaced with the term 'rebels' as recommended by OSCE. <p>Argumentation: Any mentioning of Russian Armed Forces shall be excluded as the Russian Federation is not a party of this conflict.</p>	The terminology has been changed to 'armed factions fighting the Ukrainian government'.

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Russian Federation	106	7.3.4	The scenario involving civil aeroplanes at cruising altitude being hit, either intentionally or unintentionally, by anti-aircraft missiles or air-to-air missiles is improbable, also from the perspective of risk analysis. Statistically, the probability of such an event taking place is low. Similar events only occurred a few times in the past (see Appendix D). In relation to the total number of civil flights, the number is so small that statistically the probability is extremely low.	<p>Proposed text: Add the following text after this text:</p> <p>«All the accidents listed in Appendix linked to shooting of civil aircraft are associated with the activities of the military units of the official authorities. There are no known cases (including MH17 crash) when opposition forces had an opportunity to utilize 'heavy' weapon systems against high flying civil aircraft. Besides, the official authorities have a greater potential and motivation to prevent the use of such types of weaponry, including by the groups controlled by individual politicians or the so-called business oligarchs who possess significant financial resources, exercise large influence and have a wide scope of personal interests. The probability of using heavy weapon systems by illegal armed groups in Ukraine who are not part of the official armed forces or the rebels but are rather controlled by the Ukrainian oligarchic entities should not be disregarded. Consequently, the probability of uncoordinated actions or inaction of various agencies and detachments of the official authorities represents an even higher risk for flight safety. Mitigation or exclusion of this risk is done through the appropriate oversight by ICAO of compliance with the generally accepted flight safety standards such as Annex 15 and ICAO Doc 9554.'</p> <p>Argumentation: The inclusion of the proposed text to the report is necessary to highlight the responsibility of State for timely reacting to the existing and potential threats arising from the military activity.</p>	The passage concerns a statistic approach of risks. Elsewhere in this report it is stressed that risk-enhancing factors should also be considered in the risk assessment.
Russian Federation	109	8.1	c. None of the other parties involved - the airlines, the States of the Operators or third parties such as ICAO - identified potential risks that the conflict in Eastern Ukraine posed to civil air traffic. Airlines assumed that any open airspace was safe, did not receive any information pertaining to the underlying reasons for the closures of portions of airspace, and did not perceive any threat for overflying as a result from developments on the ground. None of the airlines stopped flying over Eastern Ukraine as a result of the armed conflict in the area. The States that did gather information about the conflict in Eastern Ukraine focused on its potential geopolitical and military-strategic consequences and not on its possible impact on civil aviation.	<p>Proposed text: The following text shall be added after this text:</p> <p>«The absence or provision of distorted (untrustworthy) information by Ukraine about possible risks of flying over the armed conflict zone would eliminate the possibility of their evaluation and mitigation of the consequences'.</p> <p>Argumentation: See the comments to the other parts of the report.</p>	The proposed text is not supported by the findings in this investigation.
Russian Federation	110	8.2	c. It is difficult for airlines to gather the information they need to adequately assess the risks involved in overflying conflict areas. When States possess information that is relevant to this risk assessment, it is desirable that they share this information with the airlines in a structured manner. In addition, States that collect information about conflict areas could take airspace usage patterns by civil aviation more into account.	<p>Proposed text: The following text shall be added after this text:</p> <p>«While analyzing the information in the conflict zone, the States, airlines and ICAO should consider such factors as provision of false, strongly distorted or unverified information by the conflicting parties which would mean that the possible risk awareness would be incomplete or erroneous.'</p> <p>Argumentation: See the comments to the other parts of the report.</p>	The proposed text is not supported by the findings in this investigation.

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Ukraine	General comments	General Comments		<p>The format of final report recommended by Annex 13 to the Convention on International Civil Aviation should be applied to this document (draft final report should be sent to States involved as one structured document).</p> <p>The report contains a large number of politically charged statements/ references, broadly reflecting the views of the Russian Federation on the nature, underlying causes and drivers of the crisis in and around Ukraine. Among those there is the assessment of the Russian aggression as an intra-national (or intra-state) conflict throughout the text. Importantly, the role and involvement of the Russian Federation, its officials and military units in igniting the hostilities as well as in willful financing and supplying arms, personnel and equipment (including those capable of bringing about the downing of MH17) to the conflict area have been scarcely reflected in the text. Moreover, the document contains some information based on unclear sources.</p> <p>Similar concerns arise as to various references in the report to the developments in and around the Autonomous Republic of Crimea and the city of Sevastopol, which ignore the unlawful nature of their occupation, pre-planned (and publically recognized as such by Russia's officials) and carried out by the Russian military, and their illegal annexation by the Russian Federation. Thus, the report fits in the general pattern of Russia's narrative regarding the events in Ukraine: 'the conflict is internal by its nature, of which the separatists and the Ukrainian government are the sides, and the incorporation of the Crimean peninsula into the Russian Federation was not a result of illegal occupation and annexation but rather the decisions taken by the Crimean legitimate authorities'. Ukraine resolutely rejects this interpretation.</p> <p>In view of the above, the references to 'separatists' in the text do not cover participation of Russian military personnel and/or military units in the hostilities and should be replaced with a more general term 'illegal armed groups' or 'militants', while the developments in the AR Crimea and the city of Sevastopol should be termed as illegal occupation/annexation by the Russian Federation. In the same vein, the definition 'intra-national conflict' should be deleted throughout the text, while the word 'conflict' should be sufficient and neutral enough to refer to the developments in the eastern part of Ukraine.</p> <p>In addition, there is a need to move to chapter 'Definitions and Abbreviation' the definition of conflict area, (page 33 of the draft report). In our opinion, such a definition needs to be modified in the following way:</p> <p>'The Dutch Safety Board defines conflict areas as area of certain districts of Donetsk and Luhansk regions of Ukraine, in which the counter-terrorist operation is taking place between Ukrainian government armed forces and illegal armed formations, groups, irregulars and mercenaries financed, aided and abetted by the Russian Federation, including Russian military personnel, who carry out acts of armed force'.</p>	The Dutch Safety Board does not provide any political interpretation of the conflict and strives to use politically neutral terms as much as possible. Interpretations by other parties are those parties' responsibility.

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				<p>Also it is important to replace throughout the text the words 'Eastern Ukraine' with 'eastern part of Ukraine' as the hostilities take place only in the small part of the two Eastern regions of Ukraine.</p> <p>The document contains a large number of references to ICAO documents accompanied by their various interpretations. It is the opinion of the Ukrainian side that ICAO documents should be quoted, referred to or otherwise used in the text without interpretation to avoid misunderstandings or misleading conclusions.</p> <p>Information provided by Ukraine was not always correctly reflected by the Dutch Safety Board in the report. Therefore, conclusions contained in some parts of the report should be revised, in order to properly reflect the information earlier provided by the Ukrainian side both in writing and orally. (Additional information recently requested by the Dutch Safety Board will be provided by the Ukrainian side in the near future.)</p> <p>It should also be noted that conclusions in the draft report 'Flight MH17 and flying over conflict areas' do not correspond to conclusions contained in the draft report 'Crash of Malaysia Airlines Boeing 777-200, 9M-MRD, flight MH17'. Moreover, safety recommendations are absent in the text of the former and the purpose of that document is not quite clear, considering that the main objective of the investigation is to prevent such events in the future.</p> <p>Absence of - the text proposed by the Ukrainian Side to be deleted or modified. with aviation activities - the text proposed by the Ukrainian Side to be added.</p>	
Ukraine	14	Abbreviations and Definitions	<p>Security Absence of (ie protection against) external threats (intentional)</p> <p>Security refers to the protection against threats that stem from intentional acts (e.g. terrorism) or unintentional acts (e.g. human error, natural disaster) affecting aircraft, people or installations on the ground. Adequate security is a major expectation of the ATM community and of citizens. The ATM system should therefore contribute to security, and the ATM system, as well as ATM-related information, should be protected against security threats. Security risk management should balance the needs of the members of the ATM community that require access to the system, with the need to protect the ATM system. In the event of threats to aircraft or threats using aircraft, ATM shall provide the authorities responsible with appropriate assistance and information.</p>	<p>ICAO definition of 'Security' should be used (ICAO Annex 17, Doc 9854 Global Air Traffic Management Operational Concept). The document contains a lot of references to ICAO docs. Therefore, usage of terms different from ICAO definitions leads to misunderstanding or misinterpretation.</p>	<p>Safety in the broad sense of the word is intended here, encompassing safety as well as security. See also Section 12, Abbreviations and Definitions.</p>
Ukraine	25	2.1	<p>This chapter describes the tasks and responsibilities of the parties involved in the safety of civil airspace security.</p>	<p>The term 'safety of airspace' is inconsistent and should be replaced with 'Airspace Security' (definition provided by Eurocontrol Manual for National ATM Security Oversight properly reflects the subject of the Report).</p>	<p>The Dutch Safety Board uses the term safety of airspace based on the consideration that this is the desired situation, which is achieved by including threats as well as hazards. In this approach, airspace security is a part of airspace safety and includes the analysis of threat information and the measures based thereon.</p>

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Ukraine	28	2.3.1	<p>It is not explicitly established anywhere that the State managing the airspace must should guarantee the safety of the airspace concerned airspace security.</p> <p>Each contracting State may, for reasons of military necessity or public safety, restrict or prohibit uniformly the aircraft of other States from flying over certain areas of its territory, provided that no distinction in this respect is made between the aircraft of the State whose territory is involved, engaged in international scheduled airline services, and the aircraft of the other contracting States likewise engaged.</p> <p>Such prohibited areas shall be of reasonable extent and location so as not to interfere unnecessarily with air navigation.</p>	<p>The term 'safety of airspace' is inconsistent and should be replaced with 'Airspace Security' (definition provided by Eurocontrol Manual for National ATM Security Oversight properly reflects the subject of the Report).</p> <p>See ICAO Doc 7300 Article 9.</p>	'Must' has been replaced by 'should'; also see above.
Ukraine	35	3.1	Were there events and developments prior to the crash of flight MH17 that States or airline could have interpreted as signals of a possible decrease in the safety of the airspace of the airspace security above the area and thus of an increasing risk to aircraft flying over it?	Annex 17 ICAO considers the destruction of an airplane in service as an unlawful act of interference.	The Dutch Safety Board uses the term safety of airspace based on the consideration that this is the desired situation, which is achieved by including threats as well as hazards. In this approach, airspace security is a part of airspace safety and includes the analysis of threat information and the measures based thereon.
Ukraine	36	3.3	The Dutch Safety Board examined the extent of the availability of aeronautical information that could have signalled increasing deterioration of the safety of the airspace security above Eastern Ukraine (also refer to Figure 2).	Definition 'airspace security' provided by Eurocontrol Manual for National ATM Security Oversight properly reflects the subject of the Report.	ICAO definitions allow room for the selected interpretation, which includes accidents as well as intentional acts.
Ukraine	38	3.3	<p>On 16 July 2014, the Russian Federation authorities published two NOTAMs...</p> <p>...The aforementioned FL530 that is specified at the end of the NOTAM is much higher than the Ukrainian airspace restriction.</p>	Dutch Safety Board did not define why and how Russian Federation decided (decision making process) to close airspace up to FL320 at ATS routes segments and why the NOTAM published on July 16 entered into force on July 17, which may indicate planned Russian military actions at the Ukrainian territory.	The considerations cited here are not substantiated with facts. De Dutch Safety Board did not receive any clarity on the meaning of the restriction to FL530.
Ukraine	38	3.4	During the period between the conflict breaking out in Eastern Ukraine the eastern part of Ukraine in March 2014 and the day of the crash of flight MH17 on 17 July, a number of Ukrainian military aircraft were shot at by the illegal armed groups with the support from the territory of Russian Federation (mostly from the ground).	Illegal armed groups were, and until present remain, under effective control of the Russian Federation, receiving financial and other forms of support from Russia.	The account is factual without going into the question of who was responsible for the shootings.
Ukraine	42	3.4	It is relevant to the investigation into the crash of flight MH17 that none of the public communications established a connection with risks to civil air traffic.	Considering the ongoing investigation into the downing of the military plane which was flying at an altitude of 6,500, it was not possible to predict with due certainty, within such a short period of time, the consequences and the risks to civil aviation.	Given the statements by Ukrainian authorities on the weapon systems that were probably used and the altitude of the aeroplanes shot down, measures should have been taken as a precaution.

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Ukraine	47	3.8	<p>The weapon systems that the authorities cited in their public Statement are most probably capable of reaching cruising altitude and can therefore pose a risk to civil aviation. However, this connection was not established – not by the Ukrainian authorities, but also not by Western diplomats, who had their doubts about the degree of truthfulness of Ukrainian reports about the altitude at which the Antonov An-26 had been shot and the presence of weapon systems with this kind of range in the conflict area.</p> <p>The aircraft was hit by a weapon system probably capable of reaching cruising altitude, which most likely fired from the Russian Federation. Upon available information, illegal armed groups did not have such type of weapon.</p> <p>Ukraine is not able to assess unexpected threats arising from undeclared military activity of neighbouring State. The shooting down of civil aircraft by Military Forces of neighbouring State was not considered as a realistic scenario. (see comments to section 3.4).</p> <p>However, the connection between shooting down of Antonov 26 and risks to civil aviation was established neither by the Ukrainian authorities, nor by Western diplomats.</p>	<p>Considering the available information, it was not possible to estimate with due certainty, within such a short period of time, whether such weapon systems can be used against civil aircrafts.</p> <p>There is nothing in the report and there is no single reference to a credible source or fact suggesting that ‘Western diplomats [...] had ... doubts about the degree of truthfulness of Ukrainian reports.’ Such meritless and ungrounded statements undermine the credibility of the report.</p>	Responsibility for the safety of its airspace for civil aviation means that all hazards to civil aviation in that airspace, intentional as well as unintentional, must be recognised.
Ukraine	54	4.3	<p>Later it was revealed that there would have had to be a formal reason for closing the airspace. UkSATSE felt that until the report on the investigation into the exact cause of the crash of the AN-26 had been published, there was no such formal reason.</p>	<p>This conclusion does not follow from the written response of UkSATSE.</p> <p>The only reason for closing the airspace at that moment would be the availability of official request or information about hazards for civil aircraft in defined volume of airspace.</p> <p>The aircraft was hit by a weapon system probably capable of reaching cruising altitude, which most likely fired from the Russian Federation. Upon available information, illegal armed groups did not have such type of weapon.</p> <p>Ukraine is not able to assess unexpected threats arising from undeclared military activity of neighbouring State. The shooting down of civil aircraft by Military Forces of neighbouring State was not considered as a realistic scenario. (see comments to section 3.4, p. 41)</p>	Responsibility for the safety of its airspace for civil aviation means that all hazards to civil aviation in that airspace, intentional as well as unintentional, must be recognised.
Ukraine	56, 57	4.4	Financial consequences (entire chapter should be deleted).	Financial aspects are not the subject of investigation in accordance with ICAO Annex 13. They do not have any relations to the airspace management in Ukraine.	For the investigation, all the factors that could play a role in the decision-making process are important, including potential financial consequences.

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Ukraine	61, 62	4.5	In conflicts in which States are involved (directly or indirectly) that possess these types of weapon systems, it is possible that these weapons will become available for non-State related armed factions. A number of conflict areas have seen fighting factions seizing such types of systems that pose a risk threats to civil aviation from the State's armed forces or obtaining them from another State or organization involved in conflict. It cannot be ruled out that these factions possess the knowledge and skill needed to actually use the seized systems, or that they are able to obtain the necessary knowledge and skill by supporting another State or organization involved in conflict.	There could be another ways for terrorists to obtain weapon, necessary knowledge and skills.	The wording does not rule out these other possibilities.
Ukraine	62	4.6	This decision involved the consideration that military air traffic had to be able to fly unhindered to and from the areas where operations were being carried out. In determining this altitude, the military authorities assumed that Ukraine's enemies only possessed MANPADS, which have a limited altitude range. The decision was therefore prompted by the possibility that military planes could be hit by weapons from the ground. According to the Ukrainian authorities, the safety of civil air traffic was ensured by allowing this traffic to only fly above FL260. In other words, any consideration of the safety of civil aviation was only related to preventing collisions between civil air traffic and the lower flying military air traffic and the notion that military air traffic had to be able to fly unhindered. The military authorities viewed the possibility that weapons from the ground could present a danger to civil aircraft at cruising altitude as unrealistic and stated that they did not include this possibility in their considerations. The decision was based on information available about weapon systems used in conflict zone in the Eastern part of Ukraine. When restricting the airspace to FL260, Military authorities did consider that military flight at FLs 230 and 240 could not be hit from the ground and there were no associated threats for military flights. Consequently, it would be safe for civil aviation to perform flights at higher flight levels taking into account buffer zone - 3000 feet. That is why the military authorities viewed the possibility that weapons from the ground could present a danger to civil aircraft at cruising altitude as unrealistic.	The statement made by the Dutch Safety Board misinterprets information officially provided by Ukraine. As we suggested earlier military and civil aviation authorities considered dangers to civil aviation.	The weapon systems and altitudes cited by Ukraine in its statements also represent a hazard to civil aviation at cruising altitude. A possible threat to civil air traffic from the ground did not play an explicit role in establishing the airspace restriction to FL260.
Ukraine	62	4.6	As a result, the Ukrainian authorities supposedly had a limited ability to adequately estimate the safety of the airspace.	The text should be deleted as unwarrantable assumptions. Moreover the safety is not a subject of consideration within the volume of restricted airspace.	The text is based on statements by the Ukrainian authorities. The possible presence of aircraft, especially military aircraft, making unauthorised use of the airspace could pose a risk to civil aviation.

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Ukraine	63	4.6	Such a development may constitute a threat to civil aviation because the increase in military air traffic and shootings at military aeroplanes also increase the risk that a civil aeroplane could be hit.	<p>The text should be either deleted as an unwarrantable assumption or modified.</p> <p>There is no basis for this conclusion, as information from the Ministry of Defence used by UkSATSE at that time did not provide sufficient grounds for closing the entire airspace. Moreover, the Ukrainian authorities, taking into consideration the relevant concerns of the military, established an additional buffer zone in order to provide additional flight safety for civil aircraft. All these measures were in line with the provisions of the Convention on International Civil Aviation (Chapter 9), its Annex 11 and ICAO Doc 9554-AN/932.</p>	Given the statements by Ukrainian authorities on the weapon systems that were probably used and the altitude of the aeroplanes shot down, the Dutch Safety Board also believes that measures should have been taken as a precaution.
Ukraine	64	4.6	<p>UkSATSE and SASU Stated that they were not aware of the substantive reasons for the airspace restrictions. Despite the lack of information, the civil aviation authorities were of the opinion that it was not necessary to avoid the conflict area and that use of the airspace could continue subject to the conditions of the cited altitude restrictions. However, since they did not possess any information and the decisions made by the military traffic control were not up for discussion, it was not possible for UkSATSE and SASU to assess the military considerations. As a result, they were not able to perform any assessments of their own regarding the safety of civil air traffic.</p> <p>UkSATSE and SASU stated that they were aware of the main reason for the airspace restrictions below FL320. However there was no information regarding any threats above. Therefore, there was no reason to doubt the safety of civil air traffic above airspace restrictions.</p>	<p>Viewed from the perspective of the Ukrainian civil aviation authorities the necessity of airspace restriction was to protect civil aviation from military activity.</p> <p>The statement should reflect the reality and information provided by Ukraine. Other mentioned statements are based on assumptions and incorrect interpretations of information provided by Ukraine.</p>	The statements made by the Ukrainian authorities in which they reported that a military aeroplane had been shot down on 14 July, and in which they mentioned weapon systems that were able to reach the cruising altitude of civil aeroplanes, provided sufficient reason for closing the airspace above the eastern part of Ukraine as a precaution.
Ukraine	64	4.6	The parties concerned did not use the opportunity to explain the content of the restrictions issued, as recommended in ICAO Doc 9554-AN/932. In this (non-binding) document, ICAO prescribes that, in the case of conflicts, information must be provided in NOTAMs about the nature of a threat that forms the rationale for the NOTAM.	<p>The text should be either deleted or modified.</p> <p>As it is mentioned in the report, ICAO Doc 9554-AN/932 is a non-binding document and does not prescribe to the States to provide information about the nature of the activities in restricted area or threats.</p> <p>Nevertheless, all airspace closures were set in accordance with the forementioned ICAO Doc.</p> <p>Doc 9554 contains only two examples of NOTAM. No references in the text of the document that oblige the States to publish reason of airspace restriction set. Para 10.3 of Doc 9554 '...An international NOTAM containing the necessary information, advice and safety measures to be taken should then be issued and subsequently updated in the light of developments'.</p>	The altered text makes it clearer that ICAO Doc 9554 AN/932 is non-binding. However it isn't non-committal either.
Ukraine	65	4.6	This meant that airspace users were not fully informed.	Unwarranted assumption, taking into account Annex 15, Doc 9554 par. 10.3	See above.

State/ Organisation	Page	Section / Paragraph	Text to be corrected (first ... last word)	Argumentation / substantiation	Dutch Safety Board response
Ukraine	65	4.6	Considerations other than those related to safety may have played a role in Ukraine's decision not to close the airspace to civil aviation completely. If portions of airspace are closed, airlines may fly over other countries, which means that a country may miss out on revenues. Indeed, in 2014, UksATSE's revenues did decrease. The fact that closing the airspace could lead to the impression that the State has lost its grip on part of its territory may also have played a role. With regard to financial and other possible motivations, the Dutch Safety Board has not been able to establish whether they played a role in Ukraine's decision-making process.	<p>This statement is of a prejudiced nature and is based on unconfirmed probability of Ukraine's motivations.</p> <p>Moreover, such statements are inappropriate and do relate neither to safety nor security nor airspace management.</p> <p>It is not a subject of final report accordantly to ICAO ANNEX 13.</p>	All possible factors should be investigated. On the basis of this investigation, the Dutch Safety Board concludes that it was not evident that these factors played a role.
Ukraine	66	4.7	<p>Sub-conclusions</p> <p>1. The decision-making related to the airspace above Ukraine was dominated by the military authorities and the interests of military aviation. Due to a lack of information related to the substantive decisions made by the military authorities, the civil aviation authority and air navigation service provider were not able to perform an independent assessment of the safety of the airspace for civil air traffic at cruising altitude.</p> <p>2. Ukraine's military authorities took into consideration a threat to military aircraft posed by shelling from the ground or another aircraft, but did not take into account the possibility of a civil aeroplane being shot down.</p> <p>3. The Ukrainian State established a higher minimum flight level for civil air traffic by means of NOTAMs and left the airspace open to civil aeroplanes at cruising altitude. The NOTAMs did not specify any substantive motivation for the altitude restrictions. Therefore, Ukraine did not act in accordance with the recommendation in ICAO Doc 9554-AN/932.</p> <p>4. The weapon systems that the Ukrainian State reported in relation to the Antonov An-26 being shot down on 14 July 2015, could represent a danger to civil aeroplanes because these weapons can reach aeroplanes cruising altitude. However, this connection was not made and the airspace was not closed as a precaution.</p> <p>5. It is rare for a State that is faced with an armed conflict to close its airspace, and NOTAMs containing specific information or warnings about the conflict are not generally issued. In the international system of responsibilities, the primary responsibility for the safety of airspace is borne exclusively by the sovereign State concerned. The Dutch Safety Board concludes that the basic principle of sovereignty is vulnerable when States face an armed conflict on their territory and in their airspace.</p>	<p>Ukrainian side disagrees with the sub-conclusions. The sub-conclusions should be totally revised upon the Ukrainian comments to text of the document.</p> <p>There is no basis for this conclusion, as such coordination was in place at that time and continues to be the case now. Decisions on concrete steps relating to closing the airspace is taken by the States in coordination both of military and civil components. Moreover, both components (military and civil) are involved to the decision making process as it was mentioned in the answers of the Ukrainian side</p> <p>This statement is prejudiced and groundless and is based on unconfirmed probability of Ukraine's motivations.</p> <p>The action taken by the Ukrainian authorities is not in conflict with Doc 9554-AN/932 and other ICAO documents.</p> <p>There is no basis for this conclusion - considering the available information, it was not possible to estimate with due certainty, within such a short period of time, whether such weapon systems can be used against civil aircrafts.</p>	The text of the conclusions have been modified slightly in response to the comments, but their essence remains unchanged.
Ukraine	97	6.4.2	... virtually daily. Initially, the emphasis was on the situation in Crimea, but after its accession to illegal occupation by the Russian Federation.	UN RESOLUTION A\RES\68\262	The Dutch Safety Board does not provide any political interpretation of the situation.

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Ukraine	102	7.2	As far as Ukraine was concerned, the military interests took priority in the management of its airspace.	We do not agree with such conclusion in view of the above mentioned arguments.	The findings in this investigation point out that decisions related tot the airspace were primarily taken from the perspective of the military's interest, in which a potential risk to civil aviation was not the subject of explicit consideration.
Ukraine	107	7.3.5	The above shows that intra-national armed conflicts especially those, where a foreign states in possession of long-range surface-to-air weapons systems are suspected to be involved can pose risks to civil aviation due to their unpredictability, and that the system of responsibilities and the risk assessment process are still inadequately equipped in this respect. In States that have to cope with an intra-national conflict , the safety of the airspace above the conflict cannot be guaranteed in advance, not even at cruising altitude.	<p>There exists overwhelming evidence that armed bands, groups and mercenaries, from the outset of their activities until present time, were under effective control, and received financial and other support of the Russian Federation, and included military and paramilitary personnel of the Russian Federation; the pattern of their activities broadly fits in the definition of aggression in UN General Assembly resolution 3314 (XXIX) of 14 December 1974.</p> <p>For the aims of this report such circumstances must be taken into account as only analysis of the full picture can lead to the recommendations that can make civil flights over the conflict zones in the future safer.</p>	With regard to the type of the conflict the terminology has been modified throughout the report, with the aim of making it as neutral as possible. The proposed terminology is not accepted.
Ukraine	101	7		The abovementioned corrections and amendments (including but not limited) to Chapter 7 'Assessing the risk of overflying of conflict areas' should be taken into consideration by Dutch Safety Board during the revision of the chapter as it is proposed by Ukrainian Side.	See above.
Ukraine	109	8	Main conclusions (all lines)	<p>Ukrainian side disagrees with main conclusions. The main conclusions should be totally revised upon the Ukrainian comments to text of the document.</p> <p>Moreover, the Ukrainian authorities took necessary measures in line with provisions of the Convention on International Civil Aviation, appropriate Annexes, the International Air Services Transit Agreement, ICAO Doc 9554-AN/932.</p> <p>As it is generally recognized that the hostilities in the areas relevant to the report have international dimension (direct involvement of the foreign party), it is incorrect to use the Ukrainian case as to 'conflict within state'. Moreover there are credible grounds to believe that shooting down of the MH17 was performed with the weapon system secretly provided by this foreign party. For the aims of this report such circumstances must be taken into account as only analysis of the full picture can lead to the recommendations that can make civil flights over the conflict zones in the future safer.</p> <p>There exists overwhelming evidence that armed bands, groups and mercenaries, from the outset of their activities until present time, were under effective control, and received financial and other support of the Russian Federation, and included military and paramilitary personnel of the Russian Federation; the pattern of their activities broadly fits in the definition of aggression in UN General Assembly resolution 3314 (XXIX) of 14 December 1974.</p>	The argumentation and the conclusions have been clarified based on all considerations. The essence of the comment by Ukraine is that the risk was adequately assessed. When implementing the mentioned measures, the Ukrainian authorities took insufficient notice of the possibility of a civil aeroplane at cruising altitude being fired upon.
Ukraine	109	8		The abovementioned corrections and amendments (including but not limited) to Chapter 8 'Main conclusions' should be taken into consideration by Dutch Safety Board during the revision of the chapter as it is proposed by Ukrainian Side.	See above.

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Ukraine	111	Appendix A	...regional newspapers... newspapers controlled by the militants (illegal armed groups)	This term is inapplicable for the media representing illegal armed groups acting in certain areas of Donetsk and Luhansk regions of Ukraine.	This is a reference to regional newspapers in general terms.
Ukraine	145	Appendix E	...conflict in Ukraine... situation in Ukraine	There was no conflict in Ukraine at that time in full sense of the word.	The Appendix is used as input for the main report. The terminology in the main report is leading.
Ukraine	145	Appendix E	...was annexed... was illegally occupied.	Based upon the generally recognized interpretation of the actions of the Russian Federation in the Autonomous Republic of Crimea	See above.
Ukraine	145	Appendix E	...pro-Russian separatists (referred to hereafter as the Separatists)... Russia-backed militants (referred to hereafter as the militants)	This term is inapplicable for the illegal armed groups acting in certain areas of Donetsk and Luhansk regions of Ukraine.	See above.
Ukraine	145	Appendix E	The MIVD's information indicates that the Separatists illegal armed groups were procuring an increasing number of weapons in the months prior to the crash through uncontrolled sections of the Ukrainian border. Since they were also attacked targeted from the air by the Ukrainian armed forces, mainly after the Ukrainian government had reactivated its so-called anti-terrorism operation in the course of May 2014, the illegal armed groups tried to acquire anti-aircraft systems to attack Ukrainian military aircraft with the aim of defending themselves.	Inapplicable as the counter-terrorist operation was officially launched by the Government of Ukraine and this is its official name, not 'so-called' From the text it appears that illegal armed groups were the victims of attacks of Ukraine's military, which did not reflect the real situation.	See above.
Ukraine	145	Appendix E	'so-called'	Inapplicable as the counter-terrorist operation was officially launched by the Government of Ukraine and this is its official name, not 'so-called'.	See above.
Malaysia	85	5.8	In other words, Malaysia Airlines based its decision virtually exclusively on aeronautical information (selection of NOTAMs) and did not perform its own additional risk analysis. Malaysia Airlines will perform its own additional risk analysis when alerted by any aeronautical information or when any concern is identified from its various sources. To delete the wordings in strikethrough and replace with the proposed wordings in red.	It is incorrect to state that MAS did not perform its own additional risk analysis. MAS will perform its own additional risk analysis when alerted or any concern arises, please refer to the amendments made.	In this specific case, Malaysia Airlines did not perform its own risk analysis.
Malaysia	86	5.8	Some caution has to be applied when drawing conclusions related to the extent to which airlines including Malaysia Airlines altered their flight routes. To add the wordings in red above.	To be more precise and clear on the position of Malaysia Airlines in this aspect.	This paragraph concerns airlines that stopped doing so in response to the 'Simferopol NOTAM'. Malaysia Airlines stated it did not operate any flights over Crimea.
Malaysia	114	Appendix A	The Dutch Safety Board would also have liked to meet with the Malaysian civil aviation authority (the 'Department of Civil Aviation', DCA) but this body did not cooperate, neither by participating in interviews nor by answering the written questions or supplying the requested documents. To delete the above wordings (as per strikethrough).	DCA has provide cooperation by answering the written questions and attended meeting / discussion organized by DSB.	Requests by the Dutch Safety Board to interview officials from the Malaysian civil aviation authority (the Department of Civil Aviation, DCA) in relation to the flight route part of the investigation were not granted. Written questions and requests for relevant documentation also went unanswered by the DCA.