



CRASH OF THE POLISH GOVERNMENTAL PLANE PLF 101¹
SMOLENSK, RUSSIA, APRIL 10, 2010

Smolensk Pattern
Threatens International Aviation

by

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¹ According to the “Head” Instruction that governs the transportation of the officials of the Polish Republic such as the President, Prime Minister, Chairperson of the Lower House of the Parliament and the Senate, the designation “PLF 101” mean that the President is on board.

Table of Contents

| | |
|---|----|
| Introduction | 4 |
| I. Cause of the Smolensk Crash Predetermined | 5 |
| II. Violations of Investigation Standards for Fatal Aircraft Accidents .. | 6 |
| 1. Destruction and Manipulation of Evidence..... | 6 |
| 2. Withholding of Evidence | 8 |
| 3. Inappropriate Rescue and Pathological Information..... | 8 |
| III. Problems with the Official Reports..... | 8 |
| 1. Contradictions in the IAC Report | 8 |
| A. Radar Video Recording..... | 8 |
| B. Landing Charts & Glide Path | 9 |
| C. Lighting System | 11 |
| D. Flight Control Group..... | 12 |
| 2. Omissions..... | 12 |
| A. Key Issues..... | 12 |
| B. Topography of Terrain | 12 |
| C. TAWS and FMS..... | 13 |
| 3. Fabricated Statements | 13 |
| IV. Wrong Conclusions..... | 14 |
| 1. IAC Report Conclusions Invalid..... | 14 |
| A. Alternate Airdrome, Role of Russian Col. Krasnokutski..... | 15 |
| B. Descent to an altitude lower than minimum to establish visual flight..... | 15 |
| C. The lack of reaction to TAWS warnings..... | 15 |
| D. Controlled flight into terrain led to the destruction;..... | 16 |
| E. Presence of the Commander-in-Chief of Polish Air Force in the cockpit until the collision; | 16 |
| F. Psychological pressure on the PIC's decision to continue descent..... | 16 |
| 2. Miller Report Conclusions Invalid..... | 17 |
| A. The Birch..... | 17 |
| B. Monitoring the Altitude..... | 18 |

| | |
|--|----|
| V. Inappropriate Safety and Security Recommendations | 19 |
| 1. No Safety Recommendations for Air Navigation | 19 |
| A. Violations by the Flight Control Group | 19 |
| B. Chief Air Traffic Controller | 21 |
| C. Landing Zone Controller | 22 |
| D. Decision Process | 23 |
| 2. No Airworthiness Recommendations | 26 |
| 3. No Security Recommendations..... | 26 |
| VI. Violations of Human Rights | 27 |
| 1. Cruel and Inhumane Treatment..... | 27 |
| 2. Violation of Due Process of Law..... | 28 |
| VII. Conclusion..... | 29 |
| Appendix: Destruction of Evidence..... | 30 |

Introduction

On April 10, 2010 the Polish Governmental Airplane Tu-154M, flight PLF 101 from Warsaw, Poland, to Smolensk, Russia, carrying the President of Poland and the top Polish officials for the commemoration of the 70th anniversary of the Katyn crime crashed on landing at the Smolensk 'Severny' airdrome in Russia ("Smolensk Crash"). All 96 people on board died in that crash - there was no survivors.

The Russian Federation acting as the State of Occurrence, State of Design, and State of Manufacturer conducted investigation into the Smolensk Crash. The Republic of Poland acting as the State of Operator and State of Registry submitted its comments to the draft final report of the Russian Federation. The Remarks of the Republic of Poland to the Draft Final Report of the Russian Federation dated December 19, 2010 ("Polish Response") were submitted to the Russian Federation in Polish and Russian languages and were posted on the internet in Polish only. The Polish Response was not officially translated into English.² It was through the efforts of the families of the Smolensk victims that the Polish Response was translated into English.³ The Interstate Aviation Committee ("IAC") as the investigator-in-charge of the Russian Federation disregarded the Polish Response, in particular the Polish objection as to the cause of the crash, and announced its final report with its own conclusions at a press conference in Moscow on January 13, 2011 ("IAC Report").

The objections to the investigation of the Russian Federation into the Smolensk Crash are multifold and of fundamental nature. They range from questioning the integrity of the investigation process and challenging the conclusions of the IAC Report in its entirety, to challenging the credibility of the IAC by virtue of its members acting in direct conflict of interest with their official positions. The Polish objections to the Russian investigation process range from denying the Republic of Poland access to the investigation by preventing the Polish representatives from participating in the investigation tasks and meetings, denying Polish requests for information, denying the Polish side access to evidence and key reports, to destroying, falsifying and manipulating the evidence, not providing details of rescue operations, conducting the investigation in violation of well established international standards, and preparing the IAC Report in violation of Annex 13 to the Chicago Convention accepted by the Russian Federation as the standard for the investigation into the Smolensk Crash.

This paper does not intend to address all issues arising in connection with the Russian investigation into the Smolensk Crash but rather highlights the most important problems and the most representative violations.

² The Polish Government did not translate the Polish Response into English. It is thanks to the non-governmental organizations and private persons that the Western reader can learn of this official Polish document that outlines the scope of irregularities of the Russian investigation into the Smolensk Crash.

³ Sponsors of the English translation of the Polish Response ("Polish Response in English") are: The Katyn 2010 Family Association, Ul. Chełmżyńska 98C, 04-247 Warszawa, Poland, Mobile (Poland): +48 784 756 531 Mobile (UK): +44 793 555 7562; +44 796 936 2341 e-mail: polish.remarks@gmail.com.

I. Cause of the Smolensk Crash Predetermined

The pilot error scenario was put forward as the most probable cause of the Smolensk Crash simultaneously with the announcement of the crash.⁴ The top Polish Government officials made a calculated political decision not to blame the Russian Federation for the Smolensk Crash, as evidenced by secret Klich tapes released in Poland in December 2011.⁵ This political decision made in April 2010 led to the adoption of the pilot error hypothesis to the exclusion of all other possible causes of the Smolensk Crash. This strategy of blaming the pilot who acted under pressure from the Air Force General and the President of Poland also served the interest of some top Polish Government officials who were responsible in their official capacity for the preparation and safety of the flight PFL 101 on April 10, 2010.

Since the pilot error scenario served the interest of all parties involved in the investigation into the Smolensk Crash, other scenarios such as technical malfunction or terrorist attack were ruled out from the outset. Consequently, a serious incident involving the failure of the steering system and autopilot during a humanitarian mission flight to Haiti on January 23, 2010, was not even mentioned in the official report. Numerous technical defects reported after the general overhaul performed in Samara, Russia, in December of 2009, were not addressed either.⁶

Similarly, no explanation as to the cause of unusually extensive damage to the airplane was provided, and no analysis of the Smolensk fatalities versus survival rates in similar crashes was made. A request for the air test at the Severny airdrome on the day of the crash was disregarded, and an inquiry regarding suspicious activities in the airspace of the Severny airdrome on the day of the crash was ignored. Credible terrorist threat alerts reported on the eve of the crash were not considered, and other serious threats against the victims of the crash were ignored.⁷ Requests for any information that aimed at addressing scenarios other than the official pilot error hypothesis had been systematically blocked.

The pilot error conclusion presented in the IAC Report in January 2011 was replicated in the Final Report of the State Commission of Aircraft Accident Investigation of the Republic of Poland dated July 29, 2012 ("Miller Report").⁸ As a result of undue political pressure, the Miller Report disregarded the Polish Response including the Polish objections to the Russian conclusions and confirmed the Russian findings. The Miller Report was issued despite the fact that the Polish side did not have access to any key evidence and that no answers to 169 Polish inquiries and requests for information were received.

⁴ See text messages from the Prime Minister Office instructing the politicians what to say: <http://freep1.info/33-general-slawomir-petelicki-reveals>, as posted March 23, 2012.

⁵ See: <http://www.rp.pl/artukul/600898,769718-PiS-chce-posiedzenia-komisji-ON-w-sprawie-tzw--tasm-Klicha.html>

⁶ "Zbrodnia Smolenska - Anatomia Zamachu," Wydawnictwo Antyk Marcin Dybowski, 2011, p. 351. Members of the IAC acted in direct conflict of interest because they represented the designer, manufacturer and servicer of the airplane under investigation.

⁷ See: <http://akwedukt.nowyekran.pl/post/55808,minister-szczyglo-s-p-wiedzial-o-zleceniu-zamachu-na-prezydenta-kaczynskiego>, as posted on March 22, 2012.

⁸ See: <http://cdn.gazeta.pl/bi.gazeta.pl/pub/raport/FinalReportTu-154M.pdf>. Jerzy Miller, who headed the Polish investigation, acted in direct conflict of interest because in his capacity as Minister of Internal Affairs he was responsible for the oversight of the Bureau for the Protection of Government Officials.

After the release of the Miller Report, the investigation into the Smolensk crash was conducted by the Polish Parliamentary Committee for the Investigation of the Smolensk Crash ("Parliamentary Committee") and by the Polish Prosecutor General. As a result, a number of expert reports were made public that invalidated the findings of the official reports. Since the summer 2011, a significant body of knowledge has been developed that questions the integrity of the investigation process, and challenges the official reports and the official pilot error scenario.

The official reports present facts that are internally contradictory, include statements that are false or non-existent, omit essential information, provide irrelevant information, and present conclusions as to the cause of the crash that are false. Furthermore, the investigation process conducted by the Interstate Aviation Committee of the Russian Federation grossly violates international standards for investigation of fatal air crashes. Finally, safety recommendations made as a result of such a distorted investigation process that results in wrong conclusions are inappropriate and useless for prevention of such catastrophic occurrences in the future.

Offers of international assistance for the Smolensk investigation were made by the European Union, NATO and United States in the aftermath of the Smolensk Crash. All such offers were rejected. The United States acting through the National Transportation Safety Board assisted in the process of recovering the TAFS and FSM readings because the Universal Avionics Systems Corporation from Redmond, Washington, was the US manufacturer of these systems. However the United States did not participate in the investigation even though a US citizen, Wojciech Seweryn from Chicago, Illinois, lost his life in the Smolensk Crash, leaving behind his wife and two daughters.

In March 2012, Dr. Michael Baden, an internationally renowned American pathologist, came to Poland on request of the families of the Smolensk victims to conduct an autopsy of two victims of the Smolensk Crash. However the Polish Prosecutor General denied Dr. Baden permission to conduct the autopsies and any access to the bodies.⁹

II. Violations of Investigation Standards for Fatal Aircraft Accidents

1. Destruction and Manipulation of Evidence

Gross violations of well established international standards for the investigation of the aircraft accidents were committed in the investigation of the Smolensk Crash conducted under the auspices of the Interstate Aviation Committee, an ICAO authorized investigative body. To grasp with the scale of such violations, it is worth highlighting the most apparent ones.

The key evidence was not properly secured, identified, documented and preserved. A methodology used for evidence identification was not defined, and a chain of custody for the key evidence was not preserved. The wreckage of the plane was subjected to destruction the next day.

⁹ See: <http://freepl.info/1958-they-refused-professor-michael-baden-assist-post-mortem-sections>, as posted on March 22, 2012.

In October 2010, the Polish press published photos showing the process of demolition of the wreckage of the Tu-154M airplane at the Smolensk 'Severny' Airport that took place the next day after the crash. Video footage of the Russian workers destroying the wreckage of the Tu-154M airplane on April 11, 2010 is shown in a documentary "Misja specjalna" by A. Gargas.¹⁰

The crash site was not properly secured. Valuable personal belongings of the victims were stolen. In six days, the crash site was transferred to the Administration of Smolensk for "sanitary disposal."¹¹ The area was cleaned up and re-graded; trees were cut down. Many parts of the aircraft went missing.

Numerous instances of manipulation of evidence were documented. Witness testimonies were changed, in particular with respect to air traffic controllers. In his statements made on April 10, 2010 before the Russian prosecutor, the Landing Zone Controller stated that the medical unit was closed on the day of the crash. The statement contains the following text:

*"I felt good on 10 April 2010. Around seven o'clock that day, Plusnin and I underwent a medical examination at the Military Health Facility unit 06755: [Translator's Note: **before the word "underwent" the word "did not" is added / as a result of which it was concluded that I was in good health / Translator's Note: the deleted words are deleted in the original protocol], since there was nobody at the medical unit, but as I already stated, I felt good and nothing happened that would affect my ability to carry out my official duties.***"¹²

According to the Polish Response, the above statement is inconsistent with Par. 1.5.3 of the IAC Report entitled "Details of the ground crew." In the table regarding CATC under "Medical examination before shift" the following text appears: *At 05:15, authorized for air traffic control by the doctor on duty of Military Unit 06755*, while in the table regarding Landing Zone Controller under "Medical examination before shift" the following text appears: *At 06:50, authorized for air traffic control by the doctor on duty of Military Unit 06755.*¹³

On September 8, 2011, Dr. K. Nowaczyk testified before the Polish Parliamentary Committee that satellite pictures of the accident site taken by GeoEyes Satellite show that the ground position of the plane's left horizontal stabilizer was changed between April 11 and April 12, 2010.¹⁴ The horizontal stabilizer was moved about 50 meters closer to the main part of the wreckage. The IAC Report in its analysis includes a new position from April 12 as the original position in which the horizontal stabilizer purportedly was found.¹⁵

¹⁰ See: <http://www.youtube.com/watch?v=Oeel3QTC8Ac>

Breaking windows is of added significance because in searching for evidence of explosion the glass is the best material for testing.

¹¹ IAC Report, English translation, p. 94

¹² Polish Response in English, p. 33.

¹³ Ibid.

¹⁴ K. Nowaczyk, "Are MAK and KBWL LP reports trustworthy?" as retrieved on line on November 7, 2011 at <http://mdabrowski.salon24.pl/340718,prezentacja-ekspertow-przed-zespolem-parlamentarnym-08-09-2011>.

¹⁵ IAC Report, English translation, p. 87.

2. Withholding of Evidence

The Russian side disregarded 80% of Polish requests for information. Two years after the crash, the Polish investigators do not have adequate access to the black boxes and the wreckage of the plane. Important electronic devices belonging to the top Polish officials who died in the crash are withheld from the investigation. Similarly, a complete set of satellite pictures as well as the video recording from the Smolensk 'Severny' airdrome at the time of the crash are withheld. The key data from the flight data recorder ("FDR") was either not provided or presented in unreadable format. Essential reports including a detailed survey of the crash site description of the airplane debris and a toxicological analysis of the remains were not provided.

3. Inappropriate Rescue and Pathological Information

No detailed records of rescue operations were made available. The treatment of the bodies violated the dignity of the victims and traumatized their families. The medical examination of the bodies was inappropriate, post mortem reports were grossly inaccurate, incomplete and wrong. The cause of death of the victims determined as the consequence of the impact with the ground was not confirmed by the autopsy of two bodies performed in Poland in March of 2012.¹⁶

III. Problems with the Official Reports

1. Contradictions in the IAC Report

A. Radar Video Recording

According to the IAC Report, the radar video recording related to the landing of Tu-154M Flight 101 on April 10, 2010 was missing. "During the pre-flight preparation on April 10 only the operability of the recorder was checked with no assessment of the record quality. The analysis revealed that the record was not made due to twisting (bridging) of wires between the video camera and the video recorder. After the wires were insulated the video recording was resumed."¹⁷

However, the IAC Report includes information on the location of the blips of the aircraft on the glide path that must have come from the radar video-recording. Thus, the Polish side asked: "In light of the information about the missing video-recording of the process of approach to landing on the PRL indicator, the quotation of data related to the location of the blips of the aircraft on the glide path on the PRL indicator raises serious doubts."¹⁸ Accordingly, the Polish side requested an explanation as to why a number of statements were made by the Russian side based on the reading from the radar video-recording if, allegedly, such recording was not made due to a malfunction.

¹⁶ See: <http://freepl.info/1977-autopsies-smolensk-victims-bodies-undermine-russian-version>, as posted on march 23, 2012.

¹⁷ IAC Report, English translation, p. 73.

¹⁸ Polish Response in English, pp. 57-60.

The following statements made in the ICA Report illustrate this issue: “At 6 km the aircraft was actually higher than the glide path (considering the indication inaccuracy the aircraft blip was on the top boundary of the glide path tolerance area for glide path angle of $\sim 3^{\circ}10'$ ”).¹⁹ Another statement also refers to the reading from the radar recording: “At 10:40:39 the landing zone controller informed the crew: '2, on course, on glide path'. At that time the aircraft was at a height of about 115 m with reference to RWY 26 threshold, which was almost corresponding to the missed approach height. Considering the indication inaccuracies the aircraft blip on the radar was almost at the lowest boundary of the glide path tolerance area.”²⁰

The last sentence from the quote above is questionable in several important respects. First, it describes the aircraft blip from the radar tape that allegedly was not made. Second, the conclusion that the blip was “almost at the lowest boundary of the glide path tolerance” is grossly inaccurate, considering that the margin of error in this instance is in the range of 600 percent because the tolerance level²¹ at the distance of 2000 meters is 7 meters while the variance in this case is 42 meters below the gliding path, which amounts to 600% error.²² Therefore the Russian conclusion that the aircraft blip on the radar was “*almost* at the lowest boundary of the glide path tolerance area” in the situation where the margin of error represents 600% is grossly unreasonable and wrong. Similar misleading statements are made with respect to the entire description of the gliding path.²³

On January 16, 2012, that is one year after the release of the IAC Report, the Polish Prosecutor General announced that the Polish side may receive audio and video recording from the operations of the Air Traffic Control on April 10, 2010, during landing of the Polish Tu-154M.²⁴

B. Landing Charts & Glide Path

Another significant contradiction presented in the IAC Report relates to the analysis of the landing charts. An ICAO test flight was performed at the Smolensk 'Severny' airport on March 15, 2010, with the glide path angle of $2^{\circ}40'$. This glide path angle was used on the approach cards of Tu-154M that were made available to the Polish side. After the crash, on April 15, 2010, the Russian side performed a second fly-around test at the Smolensk 'Severny' airfield with the glide path angle of $3^{\circ}12.3'$. This second glide path angle was then selected for further calculations by the IAC. In its comments, the Polish side points out that “there has been no analysis regarding the path of $2^{\circ}40'$ (± 30) valid for the approach cards. The explanation for changes in the path of $2^{\circ}40'$ to $3^{\circ}12.3'$ may be an attempt to explain the lack of response from KSL [Landing Zone Controller] to the deviation of position of Tu-154M aircraft from the valid glide path outside the permissible tolerance.”²⁵

¹⁹ IAC Report, English translation, p. 58. Similar statements that refer to detailed information about the location of an aircraft on the radar screen were made on pages 57-60 of the report.

²⁰ Ibid.

²¹ The tolerance levels of the Russian Federation as provided by the Federal Aviation Provisions regarding State Aviation Flights (“FAPPPGosA”) are presented on page 108 of the Polish Response.

²² According to K. Matyszczyk, at the glide path angle of $2^{\circ}40'$ the error is 600%. If the Russians insist on using the glide path angle of $3^{\circ}10'$ in this scenario the margin of error would amount to 1,000%. (2000 distance ± 6 m tolerance level, 60 m below the glide path: $60/6 \times 100$).

²³ IAC Report, English Translation, pp. 153, 154, 162, 163, 164.

²⁴ http://www.polityczni.pl/nie_wiadomo_czy_w_kokpicie_tu,154_byl_gen._blasik,audio,51,6571.html

²⁵ Polish Response in English, p. 69.

The lack of response of the Landing Zone Controller to the wrong position with respect to the glide path is further justified by the Russian report as follows: “Thus, in the accident flight the landing zone controller saw the aircraft blip on the radar as being referenced to glide path of $\sim 3^{\circ}10'$. The inaccuracy was about 0.5° , which is equal to the tolerance area range.”²⁶

The analyses of the glide path of $3^{\circ}10'$ do not correspond with the valid and the published path of $2^{\circ}40'$. Furthermore, the information presented by IAC indicates that “the aircraft blip was outside of the permissible error area of the linear deviation, even for the path of $3^{\circ}10'$, which is not commented by the authors of the IAC Report.”²⁷ Calculations carried out by the Polish side that take into account the position of the aircraft in relation to the glide path of $3^{\circ}10'$ show that “at a distance of 3.3 km to the DS26 the permissible error of linear deviation is ± 28 m, i.e. with a tolerance of 1/3 of the value that is below - 9.33 m, KSL should have informed the crew of its wrong position on the path. The conclusion is that even before reaching 3 km, KSL continued to inform the crew of their correct position 'on the course and path', when in fact the flight of the aircraft was lowering, increasing its vertical distance from the path.”²⁸

The IAC Report also includes the following statement: “At 10:39:10 the controller informed the crew that they were 10 km from the runway threshold and had reached the glide path entrance point.” According to the Polish side “Informing the crew that at a distance of 10 km the aircraft had reached the glide path entrance point [means] that KSL guided the aircraft according to the approach glide path angle $2^{\circ}40'$ that was in force on cards.”²⁹

In analyzing the last phase of the flight, the IAC decided to change the glide path angle³⁰ from $2^{\circ}40'$ to $3^{\circ}12'$. In fact, three different glide path angles, that is $2^{\circ}40'$, $3^{\circ}10'$ and $3^{\circ}12,3$ angles, are used by IAC throughout the report. According to the Polish Response, in the IAC Report “various angles of the descent path are referred to depending on the need for conducting the analysis, which gives the impression that the choice of path was dictated by the need to prove that on the radar screen the blip of the aircraft was always “on course.” In addition, there is a statement saying that in fact the flight crew performed the flight with an angle of 5° .” Therefore, the Polish side was forced to ask: what angle of the path should be used here if even the path of 5° did not cause distress and reaction of radar guidance controllers.³¹

According to the Polish side, when using the gliding angle of $2^{\circ}40'$ the airplane was on gliding path only at a distance of 10 km from the landing beam and at a distance of 2.78 km while crossing the gliding path. At all other times in a distance from 9 km to 2.78 km from the landing

²⁶ IAC Report, English translation, p. 123. Even at a glide path angle of $3^{\circ}12'$ and taking into account allowable deviations from the beam runway centre, the aircraft would still have remained under the glide path, dangerously close to the ground, even if starting from a distance of 3000 meters from the runway beam.

²⁷ Polish Response in English, p. 69 and pp. 107-108.

²⁸ Polish Response in English, p. 121.

²⁹ Ibid., p. 115.

³⁰ As required by Article 115 of the Russian FAPPPGosA, “the location of the blip on the indicator corresponds to the position 'on the glide path' when the permissible error of linear deviation does not exceed 1/3 of the linear dimensions of the zone of tolerance.”

³¹ Polish Response in English, p. 123.

beam, the margin of error was in the range from 200% to 600%. At a distance from 2.78 km to 1.48 km, the airplane was below the gliding path with the error ranging from 300 to 600%.

Even assuming the incorrectly applied gliding path angle of 3°10' used by the IAC, the airplane would have remained 75% of the time outside the gliding path. At a distance of 3 km from the airport beam, it was dangerously below the gliding path, exceeding the accepted margin of error³² by 10% and by 1000% at 2.5 km to 1.95 km. The FCG reacted only at 1.45 km from the airport beam where the accepted error exceeded 1600%.³³

When the crew crossed 'level 101' the FCG did not alert the pilots about the problem but instead reassured the crew they were on course and on the correct path, misleading the crew about the actual distance from the runway beam. The FCG did not correct this misleading information for at least 30 seconds.

Although the aircraft was for 29 seconds outside the zone – below the gliding path³⁴ – the Landing Zone Controller did not give the crew information about its incorrect position relative to the path, still incorrectly informing them of the correct position “on course and on path.”³⁵ The command “Level 101” (10:40:53.4) was given about 14 seconds after informing the crew that they were “two, on course, on the glide path.” (10:40:39.9)³⁶ The command “Level 101” was issued by the Landing Zone Controller too late, when the aircraft's marker had already disappeared from the indicator (according to testimony).

C. Lighting System

According to the IAC Report, the airport lighting system was working properly at the Smolensk 'Severny' airfield at the time of the accident. This conclusion stands in direct contradiction to statements contained in the IAC Report which indicated that four out of eight rows of lights were turned off.³⁷ This information was revealed by the Russian side only after a journalist from Belorussia made public photos showing Russian soldiers replacing bulbs and fixing power supply cables only a few hours after the crash.³⁸

³² According to the Regulations of the Russian Federation.

³³ Polish Response in English, p. 108.

³⁴ Ibid. In accordance with Article 115 of FAPPPGosA, the permissible error of linear deviation does not exceed 1/3 of the linear dimensions of the zone of tolerance.

³⁵ In addition, FTC communications with the crew from the very beginning provided distance information with 600-700 meter error. Thus the crew thought they were closer to the airport than in fact they were.

³⁶ Polish Response in English, p. 121. In fact the plane was already on the glide path at an altitude of 17m in relation to the threshold of DS 26.

³⁷ IAC Final Report, English translation, p. 55. The lighting equipment check also revealed that depending on the aircraft position and flight altitude the lights at a distance of 400, 700 and 800 m from RWY 26 can be shaded by the surrounding trees and bushes. It revealed that the lights of the second and third group (800 and 700 m from RWY 26 threshold) were missing, there were fragments of lights, and the power cable was torn off. The light filters on the firsts group lights (900 m) were broken, and only one of the three lights was operative.

³⁸ Polish Response in English, p. 70-73.

D. Flight Control Group

Another contradiction of fundamental significance to this investigation can be found with respect to the evaluation of actions of the Flight Control Group ("FCG"), and the subsequent impact of these actions on the occurrence of the aviation event. In the IAC Report, the Russian side concludes that the FCG's actions during the approach did not contribute to the accident.³⁹ The Polish side points out that the aircraft crew was incorrectly informed that they were on the correct course and path position, when in fact the plane was above the path, and from 2.5 km to DS 26 was below the path by 2°40'.⁴⁰

The IAC further concludes that the level of professionalism of the FCG at the Smolensk 'Severny' Airdrome complied with the requirements. According to the Polish Response, the Landing Zone Controller "served in this function seven times in the last 12 months prior to the day of the disaster, of which only once in adverse atmospheric conditions." In his log book, there is no proper entry of being authorized to perform KSL duties at the Smolensk 'Severny' airfield, which is inconsistent with Regulations of the Russian Federation."⁴¹

2. Omissions

A. Key Issues

The Russian report evades many important issues including the role of the air navigation services and facility, performance of the air traffic control group, unexplained activities in the airspace of the Smolensk 'Severny' airport at the time of the crash, and the analysis of the airplane incident history. Accordingly, no safety recommendations are made with respect to these omitted or downplayed issues.

Similarly, no explanation as to the cause of the unusually extensive damage to the airplane was provided and the lack of survivors was not examined. A request for the air test at the Severny airdrome on the day of the crash was disregarded, and an inquiry regarding suspicious activities in the airspace of the Severny airdrome on the day of the crash was ignored. Credible terrorist threat alerts reported on the eve of the crash were not considered, and other known threats against the victims of the crash were ignored. No analysis of the crash site was presented and no discussion on the conditions of the bodies has been provided.

B. Topography of Terrain

The IAC Final Report ignores the evidence from the CVR which proves that the Tu-154M crew knew the topography of the terrain in the vicinity of the Smolensk 'Severny' airport very well. The IAC completely disregarded clear statements made by the Polish pilots regarding the lowering of the terrain before the airport beam that appear in the CVR transcript. According to the transcript, one minute before the crash and 5 km before the airport beam (that is 3 km from the lowering of the terrain), the Co-pilot reminded the PIC about the lowering of the terrain to

³⁹ IAC Report, English Translation, pp. 131-132.

⁴⁰ Polish Response in English, p. 78. In relation to the 3°10' path cited by the Russian side, the aircraft intersected the path downward 3.3 km from the DS 26 threshold. DS 26 means the landing runway at the Smolensk 'Severny' airport in the direction 259 degree from east to west E-W.

⁴¹ Ibid.

which the PIC responded: “I know.”⁴² In direct contradiction to this evidence, the IAC concluded that the pilots lacked the knowledge of the terrain topography. Such conclusion also disregards the information that the PIC landed at the Smolensk 'Severny' airport as co-pilot three days before the crash.

C. TAWS and FMS

The Terrain Awareness and Warning System (“TAWS”) that was on board of Tu-154M was to prevent “Controlled Flight Into Terrain” accidents. The Tu-154M was also equipped with the Flight Management System (“FMS”). Both these instruments were manufactured by the Universal Avionics System Corporation based in the USA. The reading of TAWS and FMS recordings was performed by the manufacturer with the participation of the NTSB and FAA.⁴³

In the IAC Final Report only the time information from reading the TAWS and FSM recordings was provided. This information was referenced in Footnote 26 as follows: “Considering the difference in time zones three extra seconds were added to TAWS time to be synchronized with the FDR.”⁴⁴ TAWS and FMS readings were not part of the analysis presented in the IAC Final Report except for the reading of the last FMS showing the position of the airplane, its altitude and speed. The original TAWS and FMS readings made by the American manufacturer were disclosed by the Polish side on July 29, 2011, more than six months after the publication of the ICA Final Report.⁴⁵ A careful analysis of this data shows that the entire computer system of the Tu-154M was shot down at an altitude of 15 meters from the ground and at a distance of 50 meters from first signs of the contact with the ground. This issue was not discussed at all in the IAC Final Report. Furthermore, as pointed out by Dr. Nowaczyk, TAWS No. 38 was not listed in the IAC Final Report at all. This TAWS indicates a different direction of the plane in the last fragments of the flight than assumed by the IAC.

3. Fabricated Statements

The “psychological analysis” presented in the IAC Report is based on the CVR transcript allegedly containing statements made by the crew members during the last 30 minutes before the crash. These transcripts, prepared by the IAC in May and June 2010, contain lines which do not appear on the CVR transcripts made by the Polish Central Criminology Laboratory⁴⁶ and by the Jan Sehn Institute of Forensic Research in Krakow.⁴⁷

⁴² Ibid. CVR transcript: S-Drugi pilot, A-Pierwszy pilot: 6:40:09.0 S- (Tam jest obniżenie?) 6:40:12.0 S- (Tam jest 6:40:12.5 obniżenie?), Arek. 6:40:13.0 A-(Wiem,) 6:40:13.5 (zaraz,) 6:40:14.0 (będzie.) 6:40:14.5 6:40:15.0 Tam, to jest taki ...?) There were five lowerings of the terrain on the path. See: <http://m.naszdziennik.pl/zasoby/smolensk/ZalacznikiDoRaportuKoncowego.pdf>

⁴³ TAWS serial number 237 and FMS serial numbers 291, 1577.

⁴⁴ IAC Final Report, English translation, pp. 105-107.

⁴⁵ Final Report of the Polish Commission for the Investigation of the State Airplane Accident Number 192/2010/11 of the airplane 154M nr 101 on April 10, 2010. See: <http://m.naszdziennik.pl/zasoby/smolensk/RaportKoncowyTu-154M.pdf>.

According to this data submitted by the NTSB the recording took place at 6:41:02 with the speed of 270 km/h at the point N 54°49.483' E 032°03.161' at the corrected altitude of about 15 meters.

⁴⁶ http://mswia.datacenter-poland.pl/protokol/Zalacznik_nr_8_Odpis_korespondencji_pokladowej.pdf

⁴⁷ <http://www.naszdziennik.pl/pdf/ies.pdf>

In the IAC Report, the Russian side several times included the following statement allegedly made by a member of the Polish crew: “*He will go crazy.*”⁴⁸ This statement has been used to prove that there was pressure to land coming from a third party, specifically from the Main Passenger that is President of Poland Lech Kaczynski. Such statements were not identified in the subsequent transcripts of CVR made by two Polish institutes. These non-existent statements were presented as proof of President's pressure on the PIC *to land at any means* in the conclusions of the IAC Report as one of the main causes of the Smolensk Crash.

The words “he will go crazy... ” were never uttered by the crew of Tu-154M. Both the Miller Committee and the Polish Prosecutor's Office publicly concluded that no such statement was ever uttered by any member of the Polish crew. The Polish side unequivocally rejected any suggestions that the crew might have undergone any psychological pressure from a third party to continue descent. According to the Polish Response, “the record of the on-board voice recorder located in the cabin of the aircraft Tu-154M (CVR) did not reveal any passage confirming the attempt to influence the actions of the crew by third persons, including the Main Passenger.”⁴⁹ This position was once again confirmed by the spokesman of the Polish Main Military Prosecutor's Office on April 19, 2011, as follows: “In the documents gathered thus far, there is no evidence whatsoever indicating that the crash of TU-154 was caused by undue pressure exerted on the crew of the TU-154.”⁵⁰

IV. Wrong Conclusions

1. IAC Report Conclusions Invalid.

According to the IAC Report, the immediate causes of the accident were: 1) the failure of the crew to take a timely decision to proceed to an alternate airdrome; 2) descent without visual contact with ground references to an altitude much lower than minimum descent altitude for go around (100 m) in order to establish visual flight; 3) no reaction to the numerous TAWS warnings, which led to: 4) controlled flight into terrain, aircraft destruction and death of the crew and passengers, 5) the presence of the Commander-in-Chief of the Polish Air Forces in the cockpit until the collision; 6) psychological pressure on the pilot in command (“PIC”) to continue descent in the conditions of unjustified risk with a dominating aim of landing at any means.⁵¹

⁴⁸ IAC Report, English translation, p. 103: *A number of phrases recorded by the CVR (at 10:30:33 “Pan Director”: “So far no President’s decision what to do next” and at 10:38:00 unidentified voice 23: “He’ll go crazy if...”) show that the PIC was in psychologically difficult position. It was obvious that in case of missed approach and proceeding to the alternate airdrome the PIC could have to face negative reaction of the Main Passenger. As the phrase “He’ll go crazy if...” was said during the final turn the PIC could have changed his previous decision and decided to take the risk of descending lower than the decision altitude hoping to finally establish visual contact with the runway and land. See: http://www.mak.ru/russian/investigations/2010/files/tu154m_101/finalreport_eng.pdf*

⁴⁹ The Polish Response in English, p. 66.

⁵⁰ See: <http://www.tvn24.pl/-1,1699665,0,1,matprokuratura-nie-ma-zadnego-dowodu-na-naciski,wiadomosc.html>

⁵¹ IAC Report in English, pp. 182-183.

A. Alternate Airdrome, Role of Russian Col. Krasnokutski

The transcript from the Air Traffic Control ("ACT") demonstrates that the Chief Air Traffic Controller ("CATC") undertook attempts to direct the Polish Tu-154M to an alternate airdrome but ultimately his efforts failed. The ACT transcript provides the evidence of the CATC's failed attempts to direct the Polish Tu-154M to an alternate airdrome. According to the ATC transcript, one hour before the crash, Colonel Krasnokutski⁵² located at the ATC tower states:

Smolensk is covered. There was no fog in the forecast. There was visibility 10 km. We gave all the permissions. And suddenly, out of nowhere, such things are happening. A trial approach he will make without discussion! To his minimum.

Twenty minutes before the crash, CATC Plusnin, after making numerous phone calls to send the Polish Tu-154M to an alternate airdrome, summed up his efforts as follows:

Well, everybody tries to duck out! That is how I understand it.

Fifteen minutes before the crash (8:26am) Krasnokutski says to Plusnin:

Paul, you will clear to 100 meters. 100 meters and no discussion!

Col. Krasnokutski, who was not an air traffic controller and acted as an unauthorized third person at the ATC tower, exerted pressure on CATC Plusnin to clear Flight No. 101 of the Polish Governmental Plane Tu-154M to a minimum descent altitude of 100 meters. A Polish inquiry as to the role of Col. Krasnokutski remains unanswered.

B. Descent to an altitude lower than minimum to establish visual flight

According to the most comprehensible reading of the cockpit voice recorder (CVR),⁵³ the PIC gave a command to "go around" at the minimum descent altitude of 100 meters, and the Co-Pilot repeated this command. The CVR transcript reads as follows:

| | | |
|-----------|------|---------------|
| 8:40:51.7 | N: | "One hundred" |
| 8:40:51.9 | PIC: | "Go around" |
| 8:40:53.1 | 2P: | "Go around" |

This transcript rebuts the allegation that the PIC descended to an altitude lower than minimum in order to establish visual flight. The reading of the CVR does not reveal any intent to establish visual flight below the minimum descent altitude.

C. The lack of reaction to TAWS warnings.

The first TAWS warning sounded at 8:40:42.4 am, which is less than one second after the Landing Zone Controller proclaimed "two, on course, on glide path," and two seconds before the Second Pilot read "one hundred meters." Thus, the TAWS warning went off at the time when the PIC made a decision to go around. However, since after giving a command to "go around" the airplane began an accelerated descent, the PIC's attention was likely on preventing the uncontrolled descent. Furthermore, the PIC could justifiably disregard the TAWS signal as an erroneous warning since the Smolensk Severny airdrome was not in the TAWS database. Thus, the erroneous warning could have been expected.

⁵² Col. Krasnokutski was not an Air Traffic Controller, thus was an unauthorized person in the ACT tower.

⁵³ See: <http://www.naszdziennik.pl/pdf/ies.pdf><http://www.naszdziennik.pl/pdf/ies.pdf>.

D. Controlled flight into terrain led to the destruction;

There is no evidence of an intentional action to establish a visual flight below the minimum descent altitude. To the contrary, the decision to "go around" was made in a timely manner and was confirmed by the second pilot. The CVR reading, as will be presented below, also demonstrates PIC's state of mind that contradicts any intent on his part to establish a visual flight below the minimum altitude that could lead to a controlled flight into terrain. All the above circumstances as well as the type of destruction of the airplane preclude any "controlled flight into terrain."

E. Presence of the Commander-in-Chief of Polish Air Force in the cockpit until the collision;

On January 16, 2012, the Polish Prosecutor General announced that the forensic experts from the Jan Sehn Institute of Forensic Research in Kraków conclusively determined that a voice on the CVR originally believed to be that of General Andrzej Blasik Commander-in-Chief of the Polish Air Force was in fact that of co-pilot Major Robert Grzywina. The voice of General Blasik was not identified on the CVR at all.⁵⁴ Shortly thereafter, the Polish Prosecutor General also disclosed that the body of General Blasik was found in the so-called Sector 1 together with 12 other bodies. Neither the bodies of the pilots were found in this sector, nor the wreckage of the cockpit.⁵⁵ Accordingly, the key arguments for the presence of General Blasik in the cockpit in the final phase of the flight have been proven to be false.

F. Psychological pressure on the PIC's decision to continue descent

In light of the latest evidence, there is no reason to believe that General Blasik was present in the cockpit. Furthermore, there is no evidence of any conversation or exchange between the pilots and General Blasik during the flight. Hence, there is no evidence that General Blasik exerted any psychological pressure on the pilots of the Polish Tu-154M to "land at any means." The only conversation between the PIC and a passenger regarding landing took place at 15 minutes before the crash with the Director of Protocol ("DoP"). The exchange was as follows:

PIC:

- Mr. Director, fog came out at this moment... In these conditions that we have right now we will not be able to land.
- We'll try to make an approach, we'll make one approach,
but most likely nothing will come out of it.
- So, please start thinking about a decision what we will do.
We don't have much fuel to hang around.

DoP:

- So, we have a problem.

PIC:

- We can hang around for half hour, then go to the alternate (airport).

DoP:

- Where is it?

⁵⁴ See: <http://www.thenews.pl/1/9/Artykul/82065,General-falsely-accused-of-pressurizing-Smolensk-pilots>.

⁵⁵ See: <http://www.wprost.pl/ar/288938/Oprocz-Blasika-wkokpicie-znaleziono-dwanascie-cial/>

PIC:

- Minsk or Vitebsk.

This exchange contradicts allegations that the PIC's dominating aim was "landing at any means" and refutes any allegations and charges of psychological pressure exerted on the PIC by his superiors. This type of conversation frequently takes place during the VIP flights. Every such flight has a certain sense of urgency to complete the mission. The exchange between the PIC and the Director of Protocol demonstrates no pressure other than that which is usually expected in normal circumstances for the VIP flight. In fact, this exchange serves as a proof of PIC's professional conduct.

2. Miller Report Conclusions Invalid.

The Miller Report released over six months after the IAC Report disregarded most of the issues and objections raised in the Polish Response⁵⁶ and replicated the Russian conclusions of a pilot error made under pressure exerted by Blasik who was present in the cockpit in the last stages of the fatal flight under the direction of the President. The Miller Report also emphasized that the pilot error "led to an impact on a terrain obstacle resulting in separation of a part of the left wing with aileron, and consequently to the loss of aircraft control and eventual ground impact."⁵⁷ The Miller Report further stated that one of the contributing factors was the pilots' failure "to monitor altitude by means of a pressure altimeter during a non-precision approach."

A. The Birch

In referring to "an impact on a terrain obstacle" the Miller Report referred to the IAC Report which stated that: "the aircraft collided with the birch with a trunk diameter of 30–40 cm, which led to the left outer wing portion of about 6.5 m ripped off and intensive left bank. In 5–6 more seconds, inverted, the aircraft collided with the ground and was destroyed."⁵⁸ Accordingly, both official reports assume that the airplane encounter with the birch resulted in the loss of a part of the wing, which caused the plane to invert and crash. This scenario was illustrated by an animation presented by the IAC showing the last moments of the airplane before the crash. This animation was not verified by any scientific analysis or numeric simulation, but rather represented a work of art based on intuition and speculation.

On September 8, 2011, Dr. W. Binienda, an expert on the effects of high-energy impacts on materials and structures, testifying before the Polish Parliamentary Committee presented results of his research which demonstrate, based on the facts presented in the official reports, that the collision of a wing of the Tu-154M airplane with a birch of 40 cm in diameter could not break 1/3 of the wing from the Tu-154M aircraft under the circumstances described in the official reports. While applying all parameters presented in the IAC Report in a rigorous finite element analysis, he demonstrated through a virtual experiment that the high-energy impact causes the wing to act like an ax, cutting the birch with some amount of damage to the edge of the wing but

⁵⁶ The list of 169 Polish inquiries unanswered in the IAC Report remained unanswered at the time of the issuance of the Miller Report. In August 2011, the Polish side officially confirmed that no additional information regarding the outstanding 169 Polish inquiries has been received from the Russian Federation.

⁵⁷ See: <http://mswia.datacenter-poland.pl/FinalReportTu-154M.pdf>, as retrieved on February 12, 2012.

⁵⁸ Findings No. 3.1.69 and 3.1.70, IAC Report, English translation, p. 180.

without damaging the lifting area of the wing.⁵⁹ These findings directly challenged the scenario presented by the official reports.

Even if one is to assume the scenario presented by the IAC, whereby the birch rips off 1/3 of the length of the wing of Tu-154 at the height of 6.5 meters from the ground, the ripped-off portion of the wing could not have fallen as far as 111 meters from the birch, where it was found. The aerodynamic simulation shows that if the birch had sheared the wing, the ripped off part of the wing would crash to the ground about 12 meters from the birch at velocity of 100 km/h. The inspection of the crash scene showed that the ripped off portion of the left wing was found leaning against the trees 111 meters from the birch and on the right side of the path of the airplane. The observed damage to the trees and to the ripped off segment of the wing excludes the possibility of a velocity of 100 km/h at the point of impact.

In order to explain the final location of the ripped off segment of the wing, the aerodynamic analysis of free flow of the wing segment was conducted, requiring that the landing spot of the segment corresponds with the location at which it was found.⁶⁰ The results obtained indicated that the separation from the wing at velocity of 80 m/s most likely happened 70 meters after the birch and 26 meters from the ground. This aerodynamic analysis demonstrates that the IAC's assumed flight altitude of 6.5 meters above the ground was likely 20 meters too low and the location of the separation of the wing was off by 70 meters.

Furthermore, the IAC's conclusion that an airplane traveling at an altitude of 6.5 meters from the ground could overturn is also unrealistic because the span of the wing is 19 meters. After presumably losing 6.5 meters on the birch, the remaining 12.5 meters of the wing was still longer than the distance to the ground (6.5 meters). Thus, the IAC conclusion that “after intensive left bank” the airplane “inverted” is erroneous.

Possibly in anticipation of this problem, the IAC assumed that after losing 1/3 of the wing on the birch the airplane was gaining height. This scenario also poses a fundamental problem because after losing a significant portion of the wing, the airplane would have difficulties in gaining height. Accordingly, the scenario presented by the IAC and replicated in the Miller Report is impossible in all fundamental aspects and thus is incorrect. It shall be noted that neither the IAC nor the Miller commission conducted any tests or simulations to verify their theory as to what happened in the last seconds of the fatal flight.

B. Monitoring the Altitude

In the Miller Report allegations are made that the pilot failed to monitor altitude by means of a pressure altimeter during a non-precision approach. This conclusion was based on the assumption that General Blasik, who was assumed to be present in the cockpit in the last phase

⁵⁹ W. Binienda, „Czy brzoza w Smoleńsku mogła złamać skrzydło Tu-154M 10 kwietnia 2010 roku?” as posted on November 7, 2011 at <http://mdabrowski.salon24.pl/340718.prezentacja-ekspertow-przed-zespolem-parlamentarnym-08-09-2011>; See also:

<http://www.ecgf.uakron.edu/~civil/people/binienda/Parlament%20November%202011%20-%20English.pdf>.

⁶⁰ The analysis was based on solid-fluid interaction and high velocity aerodynamic drag laws of physics.

of the flight, was the one who read the altitude from the pressure altimeter. Thus, the pilots wearing the headphones did not hear his reading but instead relied on incorrect reading of the altitude. The January 2012 CVR expert report conclusively assigns the voice that reads the altitude from the pressure altimeter to the second pilot, thus repudiates the hypothesis that the pilots incorrectly monitored the altitude.

V. Inappropriate Safety and Security Recommendations

1. No Safety Recommendations for Air Navigation

The work of the air traffic control group ("ATC") is one of the most significant and most controversial aspects of the Smolensk Crash. The ATC is frequently identified to be responsible for the crash of flight PLF-101 in Smolensk, Russia on April 10, 2012. Some believe that the actions and decisions of the ATC led the Polish crew to their death by assuring them falsely that the plane was on course and on glide path. Furthermore, the direction for the approach to the runway used for landing of the Polish Tu154M should have never been allowed since this approach direction was specifically prohibited for this particular runway in fog and bad weather conditions.⁶¹

Despite a series of fundamental problems with the performance of the ATC at Smolensk Severny airdrome on April 10, 2012, the IAC found no errors, irregularities or violations of law in the operations of the ATC.⁶² The analysis presented in the ICA Report is comprised of a number of ancillary issues but neglects the most important analysis of the performance of the air traffic control group.

A. Violations by the Flight Control Group⁶³

Three officers were assigned to the flight control group on April 10, 2010 at the Smolensk 'Severny' airport: Lieutenant Colonel Paul Plusnin as the Chief Air Traffic Controller and two of his subordinates - Landing Zone Controller Capt. Victor Ryzenko ("LZC") and assistant flight controller Major Sergei Lubancow. There was no close zone controller on duty that day. The group composition was in violation of the Federal Aviation Rules for the State Flights ("Federal Regulations")⁶⁴ because par. 77 of the Federal Regulations provides that the flight control group must consist of minimum four members: flight control manager, assistant to the flight control manager, controller of the closer zone, and controller of the landing zone.

Federal Regulations also provide that based on commander's decision another 10 members can be assigned to the flight control group. Thus, the flight control group must consist of no less than

⁶¹ Interview with Sergei Wieriewnik, former deputy director of the International Airport Moskwa-Wnukowo. See: <http://www.naszdziennik.pl/index.php?dat=20110202&typ=po&id=po07.txt>

⁶² According to IAC Report (p. 116) the ATC group actions during the approach did not contribute to the accident. Professional level of the ATC group of Smolensk "Severny" Airdrome complied with the regulations. The ATC group, using the available equipment informed the crew on the aircraft position on approach down to the established decision altitude. The operation of the nav aids and lighting equipment as well as the runway condition did not affect the accident causes.

⁶³ This section has been prepared based on the material presented in "Zbrodnia Smolenska - Anatomia Zamachu."

⁶⁴ Annex to the Command No. 275 of the Ministry of Defense of the Russian Federation dated 24 September 2004.

4 people and may consist of up to 14 people. On April 10, 2010, there were only three people on duty in Smolensk 'Severny', and Lieutenant Colonel Plusnin acted as CACT and as the closer zone controller. Compounding different flight control functions is prohibited in Russia. Thus on April 10, 2010 the Plusnin group should not accept any flights.

On the day when the Polish Tu-154M was scheduled to land, Col. Nikolaj Krasnokutski was also present at the Smolensk "Severny" ACT tower but he was not assigned any official function in the flight control group. Yet, he conducted communications and exerted pressure on the CATC Plusnin to clear the Polish Tu154M to the minimum descent altitude.

According to paragraphs 95, 101, 110 and 112 of the Federal Regulations, the CATC, his assistant and LZC should undergo medical examination before the shift. In the IAC Report, it is stated that the CATC Pavel Plusnin and LZC Viktor Ryzenko⁶⁵ underwent medical examinations and were authorized to perform air traffic control functions by a doctor on duty at the medical point JW 06755. According to Russian controllers' testimony given to the prosecutor of the Russian Federation on 10 April 2010, the medical point was closed at that time. Both controllers decided themselves that 'there were no obstacles to fulfill their duties' judging on their wellbeing.

The IAC disregarded the vital information as to the eligibility of the controllers to perform their duties at the airport that day. There is no record that the controllers were authorized to work in difficult meteorological conditions. During questioning on 18 April 2010, the Landing Zone Controller admitted it was only his second time in this role ever at the Smolensk 'Severny' airport. His first ever shift took place on April 7. Within the 12 month preceding this accident, he had undertaken this role only nine times altogether. Again, there is no documentation provided as to whether the Landing Zone Controller had ever been trained or authorized to operate and supervise the Precision Approach Radar RSP-6M2 System in Smolensk.

It is also evident that there was no military doctor on site at the Smolensk 'Severny' airdrome that day even after the crash. Only the pathology doctor arrived at the crash scene.

The mandatory test flight for weather conditions was not performed that day either. Such test flight was omitted allegedly due to the lack of adequate aircraft and a crew assigned to such task. The CATC is responsible for directing such a test flight. Results of this flight should be included in the meteorological records. These records should also include a weather forecast report and the results of the radar weather forecast. Such documents were not found in Smolensk "Severny" airdrome that day. The Federal Regulations also require a test flight to examine radio markers. Such test flight was not conducted either that day. Furthermore, flight approaching the Smolensk Severny airport were allowed to descent to a minimum of 100 m (the lowest decision altitude for approaches without ILS), while the airport landing radar was only certified to 70 m. Thus, the traffic controllers were unable to perform their tasks during rapidly deteriorating weather conditions when heavy fog suddenly flew into the airstrip.

⁶⁵ CATC Assistant Major W. Lubancev was also on duty that day.

B. Chief Air Traffic Controller

CATC Plusnin violated par. 94 of Federal Regulations which state that the CATC at the airport in the preparatory period is obligated to:

- make own preparations and direct preparations of other members of the flight control group;
- become familiar with the exact situation in the sky and on the ground in the area over the airport;
- get acquainted with radiolocation systems, communication systems and alternate airports;
- become familiar with the weather forecast and ornithological situation,
- assess the location and readiness of emergency services, including search and rescue services, and
- examine the readiness of all members of the flight control group.

CACT Plusnin has not assigned any alternate airport and did not know the weather conditions at possible alternate airports. He did not familiarize himself with the weather conditions at the Smolensk Severny airport, and with activities of other airplanes in the vicinity of the Severny airport. After the crash of Tu-154M, he was apparently disoriented because he delayed the call for search and rescue services. The sirens went off 10-15 minutes after the crash. The absence of any reports documenting preparations by the flight control group of the airdrome for the acceptance of the flights underscores the lack of preparation for the important VIP flight of the Polish Tu-154M. The process of preparation before accepting the flights is required as a matter of law.

Lt.-Col. Plusnin also violated par. 95 of Federal Regulations which provides that the CATC should:

- undergo medical examination
- study the actual situation and weather forecasts at his and alternate airports
- study actual ornithological situations in the region of each airport; [He has not studied weather at the alternate aerodrome, he did not even select any alternate airdrome, he was not versed in the weather situation at his airport].
- arrange to identify and analyze the weather results provided by radar. [There is no record that such examination was conducted.]
- determine location and level of readiness of all emergency search and rescue services on duty.[He has not determined the location and did not check readiness of the rescue services and tolerated the absence of a medical doctor at the airport. He was unable to summon emergency services which eventually have been alerted by other people.]
- accept readiness reports of the technical infrastructure at the airport [It was reported that lights have been broken or covered with trees or bushes.]
- check with the airport commandant the quality and readiness of the primary and secondary runways. [Neither Plusnin nor Kokariow checked the readiness of airport and landing strips.]
- receive reports from the flight control group and flight security group; [Flight Security Group has not contacted Lt.-Col. Plusnin. The soldiers present at the airport were not allowed to have any cell phones or cameras and were positioned near vehicles at the tarmac. CATC Plusnin did not receive a readiness report from this group.]

- receive a readiness report on technical instruments such as cameras, recorders, etc. [Lt. Col. Plusnin—has not checked such instruments. According to the IAC, the camera was not operational during the approach of the Polish Tu-154M.]
- make a protocol of the exact time of turning cameras and recorders.[No such protocol was made. Radar reading was not made.]
- direct air and weather examination with air radar system and automated management system from both directions of the approach to the runway.[No such action performed.]

The other set of duties unsatisfactorily performed or not performed at all by Lt-Col. Plusnin can be identified in connection with his second function as the closer zone controller.

C. Landing Zone Controller

The process of preparation of the entire flight control group and individual controllers is complex. Many tasks performed during such preparation often demand high technical skills and good collaboration. All components of the system need to be calibrated (in this case radar was not calibrated) and should be in good working conditions (in this case lights were broken, radio marker not working). Tasks of the flight control group during the preparation for flights are crucial. It is the inter-related precisely codified control. The inadequate preparation of LZC Cpt. Ryzenki (conscious and unconscious) to a large extent could have been detected by the CATC or closer landing zone controller - both positions assigned to Lt.-Col. Plusnin. Had there been a proper preparation, checking of the readiness of the systems, infrastructure, weather, and team, the malfunctions and errors could have been avoided.

The scope of duty of the Landing Zone Controller Cpt. Ryzenko is also defined by Federal Regulations. As stated in paragraph 111, the LZC during flight preparation shall:

- study planned option of possible approaches to landing of the aircrafts; [Ryzenko has not fulfill this requirement]
- study order and ways of directing various crews in the landing area and plan cooperation with the closer zone controller;
- precisely determine the boundaries and order of receiving the crews in the landing zone; [Cpt. Ryzenko and Lt.-Col. Plusnin did not conveyed to each other the information on target distances and where they will pass planes to each other. As a result, neither of them was able to help the pilot at the critical distance due to lack of clear division of responsibilities between both controllers.]
- satisfactorily pass training for flight controllers; [Ryzenko had a trouble reading the radar and provided incorrect distance to aircraft II-76M RA-78817 on an approach to landing. Col Krasnokutski pointed to Ryzenko's numerous errors.]

In addition, according to par. 112 of Federal Regulations, Ryzenko should:

- undergo a medical examination; [not passed.]
- check the location of the landing path using radio markers and identified them on a radar screen; [not checked because he directed aircraft along incorrect gliding path.]
- incorporate coordinates of the slope data on guiding indicators; [Invalid gliding path also indicates that he has not properly incorporated this data.]

- carry out the weather radar identification and evaluation of the ornithological situation on the approach course; the results should be conveyed to the CATC and main meteorologist; [Neither CATC nor the main meteorologist have been notified.]
- check the system parameters of radar equipment according to the test flight methodology before the arriving flight; [this flight test has not been done so equipment was not properly set.]
- check the status of all cameras and recorders; [This section clearly states that Ryzenko was responsible for assuring working conditions of all cameras and recording equipment, but the equipment have not worked properly.]

D. Decision Process

Moscow (logics) - Krasnokutski - Plusin and Ryzenko - Flight 101

Apart from the three members of the ATC, the following individuals at the airport in Smolensk were involved in directing Flight 101 on April 10 2010:

1. Col. Nikolaj Krasnokutski - vice-commander of the air base in Tver, pilot of Il-76M
2. Col. Anatoly Muraviov—dispatcher at the airport
3. Col. Aleksandr Yudin - head of communication
4. Yegorov - assistant to dispatcher Muraviov
5. Radio technician.

It shall be noted that the CATC in the rank of Lieutenant Colonel had to direct officers of a higher rank. Such structure does not improve effectiveness of the team. In this instance, CATC Lt.-Col. Plusin accepted the presence of unauthorized person of a higher rank Col Nikolay Krasnokutski, the third colonel at the airport. Officially, CATC Plusin should be independent as he is responsible for the flight safety, but on April 10, 2010 he had to deal with persons of a higher military rank who interfered with his duty.

According to par. 85 of the Federal Regulations, Col. Krasnokutski on April 10, 2010 violated a number of regulations several times. Par. 99 of the Federal Regulations states that: "The CATC shall not follow the command of higher-ranking officers, if those commands remain in conflict with the provisions of the regulation of state aviation activities and do not assure flight safety." In other words, CATC Plusin and Col. Krasnokutski should not discuss the issue of whether to send the airplane to an alternate airport or to clear it to the minimum descent altitude because such discussion led to a wrong decision made by CATC Plusin, thus violated Federal Regulations. Unfortunately, such discussion took place and Col. Krasnokutski upon discussing the matter with Moscow ordered CATC Plusin to clear Flight 101 to 100 meters.

Another procedural violation took place at the Air Traffic Central Command in Moscow. Although the Smolensk Severny airport was a military facility, the Air Traffic Command in Moscow which oversaw this flight did not inform the military command about the flight 101 from Poland. Formally, the flight plan for the flight 101 of the Polish Tu154M never arrived at the Smolensk 'Severny' airport.

The number of committed errors in the decision making process was massive and directly affected the quality of work of the flight control group. The decision-making process of the ATC tower was intricate and chaotic. The recording from the ATC tower reveals numerous attempts

of the CATC to contact all possible aviation institutions, asking them to direct Flight 101 to an alternate airport. None of those contacted assisted the CATC in directing the Flight 101 to an alternate aerodrome.

Meanwhile, as a result of a disruption of the regular decision-making process on the ground, a series of abnormalities in the functioning of the flight control group emerged. The rapidly deteriorating weather conditions and irregular cast of air control crew compounded the problems.

Impact of the Flight Control Group on Safety of Flight 101 on April 10, 2010⁶⁶

| Time (GMT) | Weather and Airport Activities | Activity based on Flight Safety | Decisions Made |
|------------|---|---|---|
| 2:00 | Good visibility | | |
| 5:00 | Visibility near minimum | Close the airport, stop accepting aircrafts, send all to alternate airports | Airport accepting aircrafts |
| After 5:00 | PLF-031 has landed with significant difficulties | Close the airport, stop accepting any aircrafts, send all to alternate airports | No reaction from the CATC, continue accepting arriving aircrafts |
| 5:30 | Visibility 800 m, smoke and fog | Immediately close the airport, stop accepting any aircrafts, send all to alternate airports | No reaction from the Flight Control Director, continue accepting arriving aircrafts |
| 6:00 | Unsuccessful attempt of landing Il-76M, RA-78817 | Information about serious incident should be reported to the Moscow airplane accidents bureau | No reaction from the CATC, continue accepting arriving aircrafts |
| 6:11 | Visibility below 400 m, low cloud ceiling | Immediately close the airport, stop accepting any aircrafts, send all to alternate airports | No reaction from the CATC, continue accepting arriving aircrafts |
| 6:22 | PLF-101 start communication with the airport tower | Send this aircraft to Minsk | Suggested approach to 100 or 50 meters |
| 6:27 | Communication with another plane (unknown) | Establishing what is that airplane, what's its plan to do „aircraft please repeat your communication” | No reaction |
| 6:27 | Unknown aircraft communicates its intention to lower its altitude into east direction | Establish what is that airplane, what is its plan „aircraft please repeat your communication” and | No reaction |

⁶⁶ Zbrodnia Smolenska - Anatomia Zamachu, p. 410.

| | | | |
|-----------------|---|--|--|
| | | check on radar if there is no danger of collision | |
| 6:27 | Unknown aircraft asks for landing permission or informs about receiving landing permission | Establish what is that airplane, what is its role, check if the unknown aircraft incorrectly accepts communication send to PLF-101 | No reaction |
| 6:37 | Visibility below 200m | Inform aircraft commandant about rapid weather deterioration, send aircraft to Minsk | No reaction |
| 6:39 | PLF-101 has started approach to landing | Do not give permission for landing | Landing strip free (controller could not see if the landing strip is free or not as the visibility was 2-50 m) |
| 6:39:30 | PLF-101 going below landing path | „Horizon” or „Path” and ordering to fly away | You are on course and on path |
| 6:40:13 | PLF-101 40% above landing path | order to fly away | You are on course and on path |
| 6:40:16 | PLF-101 repeats the controllers erroneous message On course and on path | Order to stop descent and fly away | You are on course and on path |
| 6:40:26 | PLF-101 still above landing path | Order to stop descent and fly away | You are on course and on path |
| Approx 6:40:40 | PLF-101 on reached altitude 100 meter above the landing strip – pilot decision to aboard landing and fly away | Accepting decision to fly away | Quiet |
| Approx 6:40:45 | PLF-101 in rapid descend | order to fly away | Quiet |
| 6:41:00 | PLF-101 stopped descent and hit first trees | order to fly away | Horizon give me your altitude |
| 6:41:02-6:41:05 | PLF-101 loses power and disintegrates 15 meters above the ground | Immediately initiate search and rescue activities | CATC leaves to smoke cigarette without informing rescue services. Sirens go off 15 min. later. |

The flight control is no doubt one of the main pillars of air traffic safety. Nevertheless, Ruben Jesajan, a member of the Interstate Aviation Committee, did not react when a member of his subcommittee offended all controllers in the world in order to shift the blame for the Smolensk disaster to the Polish crew of Tu-154M. Oleg Smirnov publically stated that at the tower in Smolensk could sit "a chimpanzee and mumble" and that would not have any effect on the

flight.⁶⁷ If that was to be true then the world would not invest tens of billions of dollars in the air traffic services, traffic control, flight information service, and devices related to air traffic management. Assuring safety of the airplanes, guiding and supporting the airplane crews is within exclusive domain of the flight control system. Questioning this fundamental premise by the aviation expert investigating the Smolensk Crash demonstrates a significant disregard for the most fundamental principles of aviation safety. Such attitude disqualifies the IAC Report with respect to the crash of the Polish Tu-154m on April 10, 2010.

2. No Airworthiness Recommendations

No adequate aircraft information was provided in the IAC Report. Deficiencies known prior to the fatal flight were not examined. Numerous malfunctions reported prior to the accident were not analyzed. Known problems with the autopilot and steering systems were ignored. The general overhaul performed in Samara, Russia, in December of 2009 was not addressed. A serious incident during the overseas flight on January 23, 2010 was not even mentioned in the report, and a series of serious defects reported after the general overhaul were ignored. No safety recommendations and no corrective actions regarding the general overhaul of the aircraft were made.

3. No Security Recommendations

The intentional destruction of the aircraft in service commonly known as a terrorist attack was ruled out and dismissed from the outset of the investigation without a proper inquiry. Accordingly, no explanation was provided as to the unusually extensive damage to the airplane, and no questions were raised with respect to the survival rate. The mere fact that there were no survivors was unusual for this type of a crash. The bodies were not examined properly, the caskets were sealed and any further examination of the bodies was strictly forbidden for 18 months. Two years after the crash two bodies were exhumed for autopsy and serious questions as to the immediate cause of death of the victims of the Smolensk Crash have been raised.⁶⁸

A Polish inquiry regarding suspicious activities in the airspace of the Smolensk 'Severny' airdrome on the day of the crash was ignored, and a request for the air test at the 'Severny' airdrome on the day of the crash was disregarded. Credible terrorist threat alerts reported on the eve of the crash were not considered, and other serious threats against the victims of the crash were ignored. A range of viable motives for a terrorist attack, in particular against the Head of State of the Polish Republic, was never addressed.

⁶⁷ See statements of Oleg Smirnow at <http://wiadomosci.wp.pl/kat,1356,title,Rosyjscy-eksperci-przedstawiaja-przyczyny-katastrofy-smolenskiej,wid,13141614,wiadomosc.html?ticaid=1dd39>

⁶⁸ See: <http://freep.l.info/1977-autopsies-smolensk-victims-bodies-undermine-russian-version>

VI. Violations of Human Rights

1. Cruel and Inhumane Treatment

"Animals are treated better than our loved ones," said Małgorzata Wasserman, a daughter of Congressman Zbigniew Wasserman, after familiarizing herself with the autopsy results of her father performed in Poland over 18 months after the Smolensk Crash.⁶⁹ It was the first autopsy of the Smolensk victim performed in Poland. Bodies of the Smolensk victims returned to Poland in sealed caskets and the victims' families were not allowed to open the caskets before the burial. Upon learning that organs surgically removed from her father's body long before the tragic crash were listed in his post mortem report prepared by the Russians in Moscow, Ms. Wasserman obtained permission for exhumation of the body to perform autopsy. Results of that autopsy revealed 90 percent discrepancy with the Russian report. Ms. Wasserman was also harassed during the process of body identification in Moscow immediately after the crash.

Only 19 full post-mortem reports were provided to the Polish side. The remaining 77 are either grossly inaccurate or have not been provided at all. Only medical and pathological reports have been provided. Full autopsy reports have not been provided except for President Lech Kaczynski and the First Lady.

Having suffered fatalities of its President, First Lady, nine generals and the top leadership, the Republic of Poland was denied access to the relevant factual information with respect to rescue, first aid, survival data, and autopsy examination in direct violation of Article 5.27 of Annex 13. As a result of this lack of cooperation, the Polish side was unable to provide its response to vitally important parts of the IAC Report, including sections 1.13 Medical Tracing Examination, 1.14 Data on the Survival of Passengers, Crew Members and Others of the Aircraft Incident, and 3.1. Findings. In particular, the Russian side failed to provide to the Polish side the documentation of forensic examination of the crew of the aircraft together with the results of toxicological and identification examination, and a report of the inspection of the crash site.⁷⁰

The IAC Report provides no information about the rescue actions taken at the scene of the accident. The Polish side has not received any transcripts of communication or situational plans, reports of participants of the rescue and fire fighting teams, photographic documentation, including film footage, which is essential for proper assessment of the security level at the Smolensk "Severny" airfield regarding fire fighting services, rescue operations, and medical services. The Polish side was not given access to the protocol of surveillance of the location of the occurrence and thus was unable to reply to Finding 3.1.67.

Similarly, the Polish side was not in a position to respond to the statement that the coronary examination revealed 0.6‰ of ethanol in the blood of the Commander-in-Chief of the Polish Air Forces. Results of testing the concentration of alcohol in the blood of the Polish Air Force Commander Blasik could not be independently verified because of the unavailability of the source documentation. No authorized toxicological data and information as to when and how the

⁶⁹ <http://wiadomosci.dziennik.pl/polityka/artykuly/372294,malgorzata-wassermann-ocenia-dokumentacje-sekcji-zwlok-ojca.html>

⁷⁰ The Polish Response in English, p. 60. The Polish side has no knowledge as to where the specific inspection areas were located and how they were marked.

material was secured for analysis was provided to the Polish side.⁷¹ No alcohol was found in the liver of General Blasiak and no alcohol was brought on board of that airplane for the Smolensk flight because of the solemn occasion. According to the world renowned pathology expert Dr Michael Baden, emphasizing 0.6‰ alcohol in the victim's blood is inappropriate because it corresponds with a level of alcohol produced naturally in the dead body after death.⁷²

Two bodies were exhumed in Poland in March of 2012 for autopsies to verify the Russian post mortem reports. The autopsies confirmed that the Russian post mortem reports were grossly inaccurate. These autopsies also revealed that the bodies of the Smolensk victims were profaned during the post mortem examination in Moscow, and that an alleged cause of death reported in the post mortem report did not correspond with the condition of the bodies.⁷³ The families of the two victims were denied the request to conduct their own autopsy.

Finally, serious allegations regarding the possible killing of the survivors of the crash have emerged as a result of a video taken at the crash scene in the immediate aftermath of the crash.⁷⁴ This video recorded the sound of several gun shots fired at the crash scene. The authenticity of this video has been confirmed by experts as well as the sound of the gun shots. Several Russian witnesses also confirmed that they heard gun shots at the crash scene.⁷⁵ These serious allegations have not been disproven to this day. To the contrary, the initial explanation that the handguns of the Polish security service officers who were on board of the plane went off as a result of the fire at the crash scene was invalidated as the bullets in the handguns of the Polish security service personnel were accounted for.⁷⁶

In light of all the above, the Smolensk victims and their families were subjected to inhuman and degrading treatment. Furthermore, the families of the victims have been denied effective investigation into the death of their loved ones in violation of Article 3 of the European Convention on Human Rights ("Convention").

2. Violation of Due Process of Law

The families of the Smolensk victims, whose human rights have been violated by persons acting in an official capacity, are denied an effective remedy before a national authority under Article 13 of the Convention in conjunction with Article 2 of the Convention, which provides that everyone's right to life shall be protected by law.

⁷¹ The Polish Response in English, p. 143. In January 2011, the IAC published on its website a document no. 37 dated April 11, 2010, which purportedly represents testing of Gen. Blasiak's blood. Medical experts point out that a natural alcohol is produced in the body within 24 hours from death and can reach a level as high as 1 percent. Therefore, other tests are required to verify such findings. However the Russian side did not produce any other tests and did not present supporting documents. See also:

www.rp.pl/artykul/593062_Ekspert--Blasiak-niekoniecznie-pil.html, and

www.naszdziennik.pl/index.php?dat=20110131&typ=po&id=po51.txt

<http://www.naszdziennik.pl/index.php?dat=20110115&typ=po&id=po02.txt>

⁷² See: <http://www.naszdziennik.pl/index.php?dat=20120323&typ=po&id=po05.txt>, as posted on March 23, 2012.

⁷³ See: <http://freepl.info/1977-autopsies-smolensk-victims-bodies-undermine-russian-version>

⁷⁴ See: <http://www.youtube.com/watch?v=Sppv6S9aHI4&feature=related>.

⁷⁵ Testimonies of Irina Winogradowa, Irina Makarowa, Aleksej Spiridonow and Denis Makarenkow.

⁷⁶ See: <http://www.naszdziennik.pl/index.php?dat=20110118&typ=po&id=po01.txt>.

The families of the Smolensk victims have been also denied a fair and public hearing on the Smolensk crash within a reasonable time by an independent and impartial tribunal established by law in violation of Article 6 of the Convention, which assure the right to a fair trial.

VII. Conclusion

The Russian Federation violated Article 5.1 of the Chicago Convention that provides: “State of Occurrence shall use every means to facilitate the investigation” and Article 5.2 that establishes the responsibility of the state conducting the investigation. Furthermore, the Russian Federation violated the rights of the Accredited Representative of Poland pursuant to Articles 5.24 and 5.25, the rights of Poland as a state having suffered fatalities or serious injuries to its citizens pursuant to Article 5.27, and the responsibility of the state conducting the investigation in preparation of the final report under Article 6.1. In conducting the investigation, the Russian Federation violated the rules and procedures of Annex 13 to the Chicago Convention and the ICAO Investigation Manual. The Polish Accredited Representative was not granted access to evidence in violation of Article 5.2 of the Chicago Convention. Except for minor corrections, the Russian Federation ignored the Polish Response to the draft IAC Report.

In light of the above circumstances, it is imperative that the international community muster the will to conduct an independent international investigation into the Smolensk Crash. The families of the victims, although harassed and intimidated, are determined to learn the full truth. The international community has a vested interest in preventing the Smolensk Crash from becoming a pattern for committing serious international crimes with impunity. Therefore, an international investigation with the participation of impartial professional experts should be promptly conducted with respect to this unprecedented catastrophe that claimed the life of the President of Poland and the top Polish leadership. If the conspiracy of silence will allow the Smolensk Crash to remain unresolved and the perpetrators unpunished, the Katyn pattern will be duplicated, and the peace and security of the international community will be threatened.

Appendix: Destruction of Evidence
Photos Taken at the Scene of the Smolensk Crash on April 11, 2010⁷⁷



⁷⁷ Photos from "Misja Specjalna" by Anita Gargas.