

Criminal Liability and Aircraft Accident Investigation:

Does criminalization in aviation threaten or bolster safety in the light of the battle between the voluntary and mandatory process of coming forward with information? Where does the industry stand on the conflicting practice of anonymous reporting versus full on disclosure?

By

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Unless otherwise noted, the conclusions illustrated herein are solely based on the author's personal views and opinions. As such, the conclusions reached should not be construed to represent official ideas, attitudes, policies, or views of any agency or organization. Information provided for the public are the only material used in conducting the research.

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Dedication

I dedicate this thesis to my family, each and every one of them play a huge role in every achievement I have made. I am this person today because of all of you. I have reached where I stand today due to your support and love.

A special dedication goes to my grandmother. She is the bond that holds us together, and we all owe it to her for bringing up every single generation of this family. She taught us how to never give up, never let anything bring us so far down, and to hold our heads high and sail against the waves if we see fit. No words can express my love and my gratitude.

Abstract

This study was performed with two main goals in mind. The first objective is to identify the existing problems with current systems and the way they handle the criminal proceedings following an aviation accident. The second goal is to study the need for a unified system which could diminish uncertainty and enhance safety with a growth of trust within and in between the industry and the judiciary.

Research and studies performed by many esteemed well-recognized personnel involved in the industry, ranging from lawyers to professors as well as aviation professionals were used in this paper. A comparison was also made between the differentiating legal systems, and examples have been used in order to portray the dilemma that the industry is facing. This led to the illustration of the huge gap in the industry and the reasons behind the second aim of this research, that being the need for a unified balanced system in the aftermath of an accident investigation where it is found that criminal proceedings need to be pursued in the light of the revelations made by the accident report.

The findings of this study strongly suggest that there exists a gap in the industry of aviation, which, instead of enhancing safety, is standing in the way of the maintenance and the growth of safety of commercial aviation. The many differentiating national legal systems have adopted diverse rules and regulation on matters dealing with aviation (i.e., the investigation process, whether the technical investigation has priority over the judicial one or vice versa, the procedure of collecting and analyzing evidence, voluntary/mandatory reporting systems, anonymity of voluntarily reporting personnel, public disclosure of data and evidence, etc.). In order to be able to tackle these obstacles ICAO needs to play a more proactive role in the unification of laws, rules, and procedures regulating the industry and the procedure used by all involved personnel in the aftermath of an aviation accident or incident. States also need to be more proactive in their adoption of ICAO Standards and Recommended practices rather than simply applying national rules and regulations, which mirror the minimum standards required. In this sense data, evidence, testimonies and identities of voluntary reporters need to be taken more seriously and afforded at a global stage. There is also a need for an international tribunal with a panel of judges who are educated and experienced in the aviation industry, and who are surrounded by the expertise needed for the comprehension of the technical and complex issues, which arise from criminal proceedings in the aftermath of an aviation catastrophe. This could

help the determination of what kind of acts or omissions qualify for criminal prosecution, as well as the protection of classified and sensitive information from being leaked to the public and the media. It could also prove to be less prejudicial and more just creating a safe environment for reporters of errors and mistakes as political, social, and media pressure will not interfere in the investigation or the proceedings before the aforementioned tribunal.

Résumé

Cette étude a été réalisée avec deux objectifs principaux en tête. Le premier était d'identifier les problèmes existants dans les systèmes légaux encadrant les procédures criminelles prises à la suite d'un accident d'avion. Le second objectif était de mettre de l'avant le besoin d'un système unifié, qui réduirait l'incertitude et augmenterait la sécurité avec la création et le développement d'un lien de confiance entre l'industrie et l'appareil judiciaire.

Ce mémoire s'appuie sur des études et recherches effectuées par de nombreux acteurs reconnus dans le milieu de l'aviation, qu'il s'agisse d'avocats, des professeurs ou de professionnels de l'industrie. Il offre une comparaison des différents systèmes légaux existants, et s'appuie sur divers exemples illustrant le dilemme auquel fait face l'industrie. Cela permet de montrer qu'un écart immense existe dans l'industrie et illustre les raisons justifiant le second objectif de cette recherche, soit le besoin d'un système unifié et équilibré encadrant les procédures criminelles entreprises à la suite accidents d'avion, lorsque des enquêtes concluent au besoin de telles procédures sur la base des révélations faites dans les rapports d'accident.

Les résultats de cette étude démontrent très clairement l'existence d'un écart important dans l'industrie de l'aviation, écart qui, plutôt que d'augmenter la sécurité, fait obstacle à son maintien et à son développement dans le domaine. Les nombreux systèmes légaux existants ont adopté des lois et règlements divers touchant différents enjeux ayant trait à l'aviation (le processus d'enquête, la question de savoir si l'enquête technique a priorité sur le judiciaire ou vice versa, la procédure de collecte et d'analyse de la preuve, les procédures de rapport obligatoires ou exécutées sur une base volontaire, l'anonymat du personnel faisant rapport sur une base volontaire, la divulgation publique des données et de la preuve, etc.). Pour être en mesure de faire face à tous ces obstacles, l'OACI doit être engagée de façon plus proactive dans l'unification et l'harmonisation des lois, règlements et procédures applicables dans l'industrie et encadrant en particulier les accidents et incidents d'avions. Les États doivent aussi adopter plus massivement les « Standards and Recommended practices » de l'OACI, plutôt que d'appliquer des normes nationales qui reflètent le minimum requis. En ce sens, les données, la preuve, les témoignages et l'identité des personnes rapportant un accident ou un incident doivent être pris plus au sérieux et traités globalement. De plus, la création d'un tribunal international est également requise. Ce tribunal devrait comprendre un panel de juges éduqués et expérimentés dans le domaine de l'aviation, qui seraient entourés d'une équipe possédant l'expertise requise

pour comprendre les enjeux techniques complexes qui découlent des procédures criminelles entreprises à la suite d'un accident d'avion. Cela faciliterait l'identification des actes qui doivent donner lieu à une poursuite criminelle ainsi que la protection des informations confidentielles, pour prévenir leur communication au public et aux médias. Cela créerait également un environnement plus sûr et moins préjudiciable pour les personnes rapportant un incident ou un accident, étant donné que les pressions politiques, sociales et médiatiques n'interféreraient pas dans les enquêtes et les procédures du tribunal international.

Acronyms and Abbreviations

AAIASB	Air Accident Investigation and Aviation Safety Board
AAIB	Air Accident Investigation Branch
ALPA	Air Line Pilots Association
ANO	Air Navigation Order
ANSV	Agenzia Nazionale per la Sicurezza del Volo
ASAP	Aviation Safety Action Program
ASRS	Aviation Safety Reporting System
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATSB	Australian Transport Safety Bureau
BEA	Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation
CAA	Civil Aviation Authority
CENIPA	Centro de Investigação e Prevenção de Acidentes Aeronáuticos
CIAIAC	Civil Aviation Accident and Incident Investigation Commission
CPS	Crown Prosecution Services
CVR	Cockpit Voice Recorder
EASA	European Aviation Safety Agency
EU	European Union
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FDR	Flight Data Recorder
FOQA	Flight Operational Quality Assurance System
HFCAS	Human Factor Analysis and Classification System
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Air Line Pilots Associations
KLM	Koninklijke Luchtvaart Maatschappij N.V.
MoU	Memorandum of Understanding
NTSB	National Transportation Safety Board

NTSC	National Transportation Safety Committee
PICAO	Provisional International Civil Aviation Organization
RASGs	Regional Aviation Safety Groups
SARPs	Standards and Recommended Practices
SIP TF	Safety Information Protection Task Force
SMS	Safety Management System
SSP	State Safety Programme
TAISB	Transportation Accident Investigation and Safety Board
TCAS	Traffic Collision Avoidance System
UK	United Kingdom
US	United States

Table of Contents

Disclaimer.....	ii
Acknowledgement.....	iii
Dedication	iv
Abstract.....	v
Résumé	vii
Acronyms and Abbreviations	ix
Table of Contents.....	xi

Chapter I

A. History of Commercial Aviation	1
B.Safety in Aviation	3
C. ICAO	3
D. The Problem: Reasons Behind the Research	7

Chapter II

A. Criminalization: Literature Review	11
I. <i>The Culture of Criminalization</i>	11
II. <i>The Detriments of Criminalization</i>	15
III. <i>Conclusion</i>	17
B.Accidents Investigations and Criminal Proceedings	18
I. <i>Annex 13: Overview</i>	20
II. <i>EU</i>	24
III. <i>Lack of Unity</i>	25
C. Criminal Proceedings, Data Protection, and Anonymity	27
I. <i>What Does a “Crime” Entail?</i>	28
II. <i>Common Law vs. Civil Law Systems</i>	29
❖ <i>Alaska Airlines Flight 261</i>	37
❖ <i>Bombardier Challenger CL-600-1A11, N370V</i>	38
❖ <i>Concorde Flight 4590</i>	38

❖ <i>Scandinavian Airlines system Flight 686</i>	39
❖ <i>Helios Airways Flight 552</i>	40
❖ <i>Gol Boeing 737 Flight 1907</i>	43
❖ <i>Garuda Indonesia Flight 200</i>	44
❖ <i>TAM Airlines Flight 3045</i>	45
❖ <i>Spanair Flight 5022</i>	46
❖ <i>Air France Flight 447</i>	47
III. Data Protection	48
❖ <i>Practical Illustration of Lack of Proper Data and Personnel Protection</i>	53
IV. Synthesis and Analysis	57
 Chapter III	
A. Recommendations	60
I. Need for Further Protection of Data and Aviation Professionals	61
II. Need for an International Tribunal	65
B. Conclusion	67
 Bibliography	 71

Chapter I

A. History of Commercial Aviation

The modern age of aviation began with the first lighter-than-air flight on 21 November 1783 with a hot air balloon designed by the Montgolfier brothers. In the early 1900s, the German Zeppelin Company manufactured rigid airships, otherwise referred to as Zeppelins, which became the first of their kind to transport passengers and cargo over long distances. Conversely, the first commercial flight took place in 1914, flying from St. Petersburg to Tampa, Florida on the 1st of January.¹ Koninklijke Luchtvaart Maatschappij N.V. [KLM] first operated a flight in 1919, making it the oldest operating carrier in our world today, the same year the first international aviation agreement was signed; the Convention Relating to the Regulation of Aerial Navigation.² By 1920, KLM was operating scheduled flights between London and Amsterdam carrying both passengers and cargo.³

By 12 October 1929, the industry witnessed the signing of the Convention for the Unification of Certain Rules Relating to International Transportation by Air [Warsaw Convention].⁴ It mandated tickets and baggage check, and harmonized liability law in aviation. Subsequently, Pan Am would operate the first Trans-Pacific Clipper flight between San Francisco and Manila, making stops along the way.⁵ A Douglas DC-3 commenced service afterwards with American Airlines in 1936 and flew from New York to Chicago as a direct non-stop flight.⁶

The Convention on International Civil Aviation [Chicago Convention]⁷ was drafted in 1944 establishing the rules and regulations for aircraft, airspace and safety and creating the

¹ See information therein online: <<http://www.flying100years.com/#1922>>.

² See *ibid*; see also *Convention Relating to the Regulation of Aerial Navigation*, 13 October 1919, 11 LNTS173, 1922 UKTS2 [*Paris Convention*]. The Paris Convention was the first international instrument to formulate the “basic concepts” of air law. See Michael Milde, *International Air Law and ICAO* (Utrecht: Eleven International Publishing, 2008).

³ See *ibid*.

⁴ The Warsaw Convention is an international convention regulating liability for international carriage of persons, baggage, or goods performed by commercial aircrafts. It was signed in Warsaw in 1929 and amended in 1955 at The Hague then again in 1971 in Guatemala City. See also *Convention for the Unification of Certain Rules Relating to International Transportation by Air*, October 12, 1929, 49 Stat 3000, TS No 876, 137 LNTS 11[*Warsaw Convention*].

⁵ See *supra* note 1.

⁶ See *ibid*.

⁷ The birth of the Chicago Convention dates back to 1944, between November and December of that year, when 52 nations, upon invitation from the United States, met in Chicago, Illinois to discuss the creation of a Convention

International Civil Aviation Organization [ICAO]⁸ by 1947. A year later, the International Air Transport Association [IATA] was founded in Havana, Cuba embodying, and serving the industry through initiatives such as IATA Operational Safety Audit.⁹ That same year, South African Airways launched its Springbok Service connecting South Africa with Europe through a 3-day journey, and Qantas started flying between Australia and the United Kingdom [UK].¹⁰

By 1953, the first commercial jet flight took place after the production of the de Havilland Comet; however, it suffered safety issues and the lifespan of these aircrafts in the commercial industry lasted until 1981.¹¹ In 1970 the Boeing 747 entered service representing the first wide-body aircraft and was flown by Pan Am on its route between New York and London. In the following years, Southwest Airlines successively became the first low cost carrier.¹²

By 1976, the world witnessed the first Concorde flight on a scheduled service from London to Bahrain then Paris to Rio de Janeiro, followed by the US deregulation of the industry in 1978. American Airlines AAdvantage commenced in 1981, KLM-Northwest Airlines Wings Alliance in 1989, and the second generation open skies agreement was signed in 1992. This was followed with the founding of the Star alliance in 1997, the Cathay Pacific first Transpolar flight in 1998, non-stop flight routes by 2004, and the first commercial biofuel flight in 2011.¹³

Many of these developments were technological while others were not, as from the early 1900s until late 1960s, with the emergence of aviation as a form of mass transportation, safety deficiencies identified by the industry related to technological elements and the improvement of technology was the major focus of the global community and the industry itself. Shortly after, technological advancements had reached a peak of a huge decline in accidents and incidents rates in commercial aviation, and the movement for the betterment of safety then shifted with this

which would set certain rules and regulations for the international aviation industry to help the industry grow and develop. See also *Convention on International Civil Aviation*, 7 December 1944, 15 UNTS 295, ICAO Doc 7300/6 (entered into force 4 April 1947) [*Chicago Convention*]; Paul Stephen Dempsey, *Public International Air Law*, (Montreal: McGill University Press, 2008) at 20 [Paul Stephen Dempsey (2008)].

⁸ International Civil Aviation Organization [ICAO] was established by the Chicago Convention at the International Conference that took place between 1 November and 7 December 1944. It began operations on 4 April 1947 under the umbrella of the United Nations' Economic and Social Council, headquartered in Montreal, Canada, to regulate the technical aspects of international civil aviation as well as play a consultative and advisory role in the economic realm of international civil aviation. ICAO's role was later extended to include the unification and standardization of law on certain matters such as licensing, certifications of airworthiness, registration of aircrafts, international operating standards, and so much more. See *ibid* at 50-51.

⁹ See *ibid* at 20.

¹⁰ See *ibid*.

¹¹ See *ibid*.

¹² See *ibid*.

¹³ See *ibid*.

change to regulatory compliance and oversight. The technological evolution led to quieter, lighter, and more fuel-efficient engines. It also played a huge role in the better utilization of space, improved airport capacity, improved situational awareness and much more. Over the years, the industry witnessed the building of safer air frames, safer airports, enhanced systems to help Air Traffic Control Towers supervise flights more easily, as well as better cock-pit technology allowing the crew to handle the aircrafts with more ease. This growth reflects years of innovation, efforts, and funding aimed at the improvement of safety in the industry as well as increased probability of survival rates in the wake of accidents. Success has been reflected in many studies and rates of accidents have fallen over the last few decades drastically as a consequence of the progress witnessed. Although such development has contributed highly to the safety improvements in the aviation industry over the years (although already states the transition), they can only take us so far. Other aspects of aviation play a huge role in terms of safety too. This paper will further discuss such issues in relation to investigations of aviation accidents.

B. Safety in Aviation

Safety and security of civil aviation are the two most vital aspects of the aviation industry with which the world community is concerned. What was arguably considered the most dangerous mode of transport some few decades ago has become the most frequent and safest in our world today. Nonetheless, it should not be forgotten, that even one aviation catastrophe may cause an immense number of casualties, fatalities, and economic losses.

According to ICAO's safety Audit of 2014, international and domestic commercial aviation accounted for about 3.1 billion passengers in 2013, a 0.2 billion increase since 2012.¹⁴ The annual accident statistics reveal a reduction in the number of accidents – 10% decrease from 2012 to 2013 – as well as the rate of accidents – 3% decrease from 2012 to 2013, from 3.2 accident per million departures to 2.8.¹⁵

C. ICAO

¹⁴ ICAO, *A Coordinated, Risk-based Approach, to Improving Global Aviation Safety*, Safety Report (2014) at 5, online: <http://www.icao.int/safety/documents/icao_2014%20safety%20report_final_02042014_web.pdf>.

¹⁵ See *ibid*.

The International Civil Aviation Organization [ICAO] is a United Nations specialized agency, which came into being on 4 April 1947 upon the entry into force of the Chicago Convention. The Organization works with Member States, as well as other industry players to develop international Standards¹⁶ and Recommended Practices [SARPs] to assist States in developing their civil aviation regulations in addition to attaining global unity in this area of law.

Upon the conclusion of the Chicago Conference in 1944, the participants reached a compromise leading to the creation of the Chicago Convention, the International Air Services Transit Agreement, and the Interim Agreement on International Civil Aviation.¹⁷ The Interim Agreement on International Civil Aviation, which entered into force six months after its adoption, set up the Provisional International Civil Aviation Organization [PICAO] with an interim Assembly, an interim Council and a Secretary General, headquartered in Montreal, Canada.¹⁸ PICAO established three committees: a Committee on Air Transport, a Committee on Air Navigation and a Committee on International Convention on Civil Aviation. PICAO also established the draft rules of procedures for ICAO's Assembly and Council, instituted the working methods for the Council, structured the Secretariat and designated both the President of the Council as well as the Secretary General of its successor, ICAO.

The objectives of ICAO, seen in the context of the preamble¹⁹ of the Chicago Convention, were set out under Article 44 of the aforementioned Convention itself.²⁰ ICAO's main functions

¹⁶ See *Chicago Convention*, *supra* note 7, ann 13, c 1:

a) ...

Standard: Any specification for physical characteristics, configuration, materiel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention; in the event of impossibility of compliance, notification to the Council is compulsory under Article 38.

Recommended Practice: Any specification for physical characteristics, configuration, materiel, performance, personnel or procedure, the uniform application of which is recognized as desirable in the interests of safety, regularity or efficiency of international air navigation, and to which Contracting States will endeavor to conform in accordance with the Convention.

See also ICAO, *Annex 13 to the Convention on International Civil Aviation, Aircraft Accident and Incident Investigation*, 10th ed (July 2010) [Annex 13].

¹⁷ The *International Air Services Transit Agreement* provided for the mutual exchange of transit rights.

The *Interim Agreement on International Civil Aviation* provided for the establishment of the Provisional International Civil Aviation Organization (PICAO), pending the entry into force of the main Convention. See *International Air Services Transit Agreement*, 7 December 1944, 84 UNTS 389, ICAO Doc 7500 (entered into force on 30 January 1945)[*LASTA*]; *International Air Transport Agreement*, 7 December 1944, 171 UNTS 387, ICAO Doc App IV-28187 (entered into force 8 February 1945)[*IATA*]; Ludwig Weber, *International Civil Aviation Organization (ICAO)*, (The Netherlands: Kluwer Law International BV, 2012) at 16 [Weber (2012)].

¹⁸ See Weber (2012), *supra* note 17.

¹⁹ See *Chicago Convention*, *supra* note 7, preamble:

revolve around codifying the principles of international air navigation, planning and refurbishing international air transport and ensuring safety alongside the orderly growth of the industry.²¹ ICAO also defines the protocols for air accident investigation, which are to be followed by the relevant Member States upon conducting an investigation. The institutional framework of ICAO encompasses an Assembly, a Council with committees, an Air Navigation Commission, a Legal Committee, Air Navigation Conferences and Divisional Meetings, Panels and Working Groups, alongside a Secretariat.

The Committee on Air Navigation, initially established under PICAQ, was later altered to the Air Navigation Commission when ICAO replaced the Provisional organ. The Air Navigation Commission is the technical body comprised of Commissioners who are nominated by their Member States and appointed by the Council. The Commissioners operate as independent experts who serve the industry as a whole, and not their respective Member States. The responsibilities of the Commission which entail the approval of Standards as well as their referral to the Council for consultation before final adoption, are laid down under article 57²² of the Chicago Convention.

Whereas the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security; and

Whereas it is desirable to avoid friction and to promote that cooperation between nations and people upon which the peace of the world depends;

Therefore, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically.

See also Weber (2012), *supra* note 17 at 19.

²⁰ See Weber (2012), *supra* note 17 at 19; see also *Chicago Convention*, *supra* note 7, art 44:

The aims and objectives of the Organization are to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport so as to:

- (a) Insure the safe and orderly growth of international civil aviation throughout the world;*
- (b) Encourage the arts of aircraft design and operation for peaceful purposes;*
- (c) Encourage the development of airways, airports, and air navigation facilities for international civil aviation;*
- (d) Meet the needs of the peoples of the world for safe, regular, efficient and economical air transport;*
- (e) Prevent economic waste caused by unreasonable competition;*
- (f) Insure that the rights of contracting States are fully respected and that every contracting State has a fair opportunity to operate international airlines;*
- (g) Avoid discrimination between contracting States;*
- (h) Promote safety of flight in international air navigation;*
- (i) Promote generally the development of all aspects of international civil aeronautics.*

²¹ Sebastian Höhne, *IT in general Aviation: Pen and Paper vs. Bits and Bytes*, (Master Thesis, European Legal Informatics Study Programme, Leibniz Universität Hannover and University of Oslo, 2013) at 38, online: <http://www.hoehne.net/files/hoehne_master-thesis_llm.pdf>.

²² See *Chicago Convention*, *supra* note 7, art 57:

The promotion of safety is one of the main objectives of ICAO. This is illustrated in Article 44 (a), (d) and (h) of the Chicago Convention as well as the third paragraph of its preamble. Even though the terms safety and security are usually used in conjunction, they have different meanings. Aviation safety relates to technical and operational safety of flight, whereas aviation security relates to safeguarding civil aviation against acts of unlawful interference. The promotion of safety has been carried out over the years through the development of SARPs set out in the annexes to the convention.

Annex 13 (Aircraft Accident and Incident Investigation)²³ for example, establishes the State's authority, responsibilities, and procedure in the investigation of aircraft accidents. It places the responsibility of gathering and safeguarding evidence on the State of Occurrence²⁴ as per Article 26 of the Chicago Convention.²⁵ It also places the duty on the State of Occurrence to handle requests for participation in the investigation by other relevant interested States. Annex 13 additionally provides that if the accident occurs outside the territory of any contracting State, that being the High Seas, the State of Registry²⁶ is then responsible to initiate an accident

The Air Navigation Commission shall:

- (a) Consider, and recommend to the Council for adoption, modifications of the Annexes to this Convention;
- (b) Establish technical subcommissions on which and contracting State may be represented, if it so desires;
- (c) Advise the Council concerning the collection and communication to the contacting States of all information which it considers necessary and useful for the advancement of air navigation.

²³ See *Chicago Convention*, *supra* note 7, ann 13 (Annex on Aircraft Accident and Incident Investigation); also see Annex 13, *supra* note 16; also see information therein online: http://www.iasa.com.au/folders/Safety_Issues/others/ICAOchap13.html.

This Annex sets out the rules on notification, investigation and reporting after the occurrence of an accident in international civil aviation. It helps Member States signatories to the Chicago Convention 1944 identify which State should conduct the investigation, which parties can be involved and to what extent, the rights of each of the States involved. It also lays down the manner in which the investigation is to be conducted as well as how the accident report should be assembled.

²⁴ See *Chicago Convention*, *supra* note 7, ann 13, c 1:

State of Occurrence. The State in the territory of which an accident or incident occurs.

²⁵ See *Chicago Convention*, *supra* note 7, art 26:

In the event of an accident to an aircraft of a contracting State occurring in the territory of another contracting State, and involving death or serious injury, or indicating serious technical defect in the aircraft or air navigation facilities, the State in which the accident occurs will institute an inquiry into the circumstances of the accident, in accordance, so far as its laws permit, with the procedure which may be recommended by the International Civil Aviation Organization. The State in which the aircraft is registered shall be given the opportunity to appoint observers to be present at the inquiry and the State holding the inquiry shall communicate the report and findings in the matter to that state.

²⁶ See *Chicago Convention*, *supra* note 7, ann 13, c 1:

State of Registry. The State on whose register the aircraft is entered.

Note. – In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations,

investigation. The Annex is also supplemented by ICAO's *Manual of Aircraft Accident Investigation, Accident Prevention Manual*, and the *Aircraft Accident Digest*.²⁷ In certain cases, ICAO is also vested with powers to investigate aviation accidents under Article 55 (e)²⁸ upon the request of any contracting state.

D. The Problem: Reasons Behind the Research

The new movement of criminalization in the aviation industry has proven to be of a very difficult and controversial nature. It has divided legal scholars and practitioners about its impact on aircraft incident/accident investigations. Such a movement towards prioritizing criminal investigations over technical ones for the pursuance of criminal prosecution rather than the enhancement of safety can either prove beneficial - in terms of the allocation of liability, as well as the "achievement of justice" - or it could prove detrimental to the quality of investigations and the ability to achieve an enhancement of safety in the industry.

As Graham Braithwaite sates, "the criminalization of aircraft accidents threatens to destroy the trust which has allowed accident investigators to identify systemic causes and make aviation as safe as it is."²⁹ Even though the notion of responsibility is a very important one, which needs to be respected under the law, some aspects of commerce fall outside the black and white areas of justice. Highly sensitive and demanding trades such as aviation are stressful in nature. They are physically, emotionally, and mentally straining to staff, and personnel involved in every aspect of the trade, ranging from technicians to engineers, pilots, air traffic controllers and other aviation professionals. The stressful nature of the industry and the jobs that fall under its umbrella are only a portion of the difficulties it faces. Many hurdles such as scientific and technical discoveries and advancements also bring complexities into the industry. The

which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).

²⁷ See Weber (2012), *supra* note 17 at 73.

²⁸ See *Chicago Convention*, *supra* note 7, art 55:

The council may:

- (e) *Investigate, quest of any contacting State, any situation which made appear to present avoid obstacles to the development of international air navigation; and, after such investigation, issue such reports as me if you do it desirable.*

²⁹ Graham Braithwaite, "Flying in the Face of Criminalization: The Safety Implications of Prosecuting Aviation Personnel for Accidents", *Book Review* (2011).

Conclusion of a survey of pilots and air traffic control officers [ATCOs] conducted by Dr. Sofia Michaelides-Mateou and Captain Dr. Andreas Mateou stated:

*Pilots and ATCOs who are already working under great pressure to maintain a high safety level and achieve high productivity targets due to the economic pressures of the industry are alarmed that the additional fear of prosecution due to an error will increase their stress, and this will have a negative effect on their concentration, decision making and ultimately on their performance.*³⁰

After some aviation accidents in certain States, two investigations take place correspondingly. The first is a technical investigation, the sole purpose of which is to identify the error, report on it, and make safety recommendations to prevent its recurrence. The second is a judicial one: an investigation that aims at identifying the parties at fault for the apportionment of blame under criminal and civil proceedings. The need to uphold the law is one of the most important aspects of the legal system that we live under, and we count on it to preserve civilization and rid ourselves of a chaotic world where the rights of some would otherwise be treaded upon for the benefit of others. Nevertheless, to some extent, “Criminalizing human error is a growing safety problem in aviation as well as other industries”, as Sidney Dekker observes.³¹

One obstacle that causes uncertainty and confusion in the industry is the lack of global unity in the approaches taken between the different legal systems when dealing with the investigations. As each State is left to decide on the appropriate national laws to be implemented, mirroring Annex 13 objectives and other ICAO Guidance Material, aviation personnel may find themselves facing criminal charges in one State yet not so in another as will be illustrated and elaborated on in Chapter II of this paper. Furthermore, national laws encouraging or establishing voluntary and/or mandatory systems of reporting also differ regardless of ICAO’s clearly stated opinion on the subject under Paragraph 5.12 – “Non-disclosure of Records” – of Annex 13. The prosecution of aviation professionals is based on criminal law and sometimes even administrative law. In both areas of law, the differences between civil and common law systems though are not so obvious, as criminal law follows much more national moral perceptions and the administrative branch follows national perceptions of “ordre public”. Regardless, these

³⁰ Dr Sofia Michaelides-Mateou and Captain Dr Andreas Mateou (2011).

³¹ Sidney Dekker, “*Flying in the Face of Criminalization: The Safety Implications of Prosecuting Aviation Personnel for Accidents*”, Book Review (2011).

differences in the contrasting systems lead to a lack of trust in the industry, which in itself leads to a deterrent from self-reporting and coming forward with information that could be vital to the investigation process in order to enhance safety. The reasons behind such dissuasion usually stems from fear that the information or material provided during the technical investigation could subsequently be employed against the source, exposing him/her to criminal liability and prosecution:

Those [SabreTech] prosecutions caused us to take a hard look at the possibility that told types of information might also be lost to the accident investigator. For decades, we have relied on individuals to tell us what happened in an accident – and they usually, sometimes, reluctantly, did so. After SabreTech prosecutions we feared that what would have been reluctance to co-operate will now become refusal. A pipeline accident in Bellingham, Washington, proved us right. A criminal investigation was immediately launched into the accident and we have yet to talk to most of the individuals operating the pipeline when it ruptured in June 1999. As a result, serious safety issues and questions about prevention remain unanswered.³²

³² ValuJet Flight 592, a regularly scheduled flight from Miami International Airport to Hartsfield-Jackson Atlanta International Airport crashed into the Everglades shortly after take-off due to an in-flight fire caused by improperly stored oxygen generators. The accident killed everyone on board. Following the accident, the NTSB, the independent investigation body of the US, determined that the fire had been due to expired chemical oxygen generators which were placed in the cargo compartment in boxes marked by ValuJet's maintenance contractor, SabreTech, against Federal Aviation Administration [FAA] regulations regarding the transportation of hazardous materials in aircraft cargo holds. The report of the NTSB stated the causes being: (1) the failure of SabreTech to properly prepare, package, and identify unexpected chemical oxygen generators before presenting them to ValuJet for carriage; (2) the failure of ValuJet to properly oversee its contract maintenance program to ensure compliance with maintenance, maintenance training, and hazardous materials requirements and practices; and (3) the failure of the FAA to require smoke detection and fire suppression systems in class D cargo compartments. The report also identified contributory factors relating to the FAA's ValuJet's and SabreTech's conducts and lack of provision of FAA regulations or oversight of these regulations. Subsequently, SabreTech maintenance supervisors and two mechanics that had performed work on the aircraft were charged with 110 counts of manslaughter and 110 counts of third degree murder but were later acquitted of all charges. SabreTech was also charged with violation of hazardous material regulations, failing to train its employees, placing a destructive device on board as well as conspiracy to falsify records and statements. See Jim Hall, *General Aviation Accident Prevention*, (NTSB Symposium, Washington, September 2000) in Sofia Michaelides-Mateou & Andreas Mateo. *Flying in the Face of Criminalization: The Safety Implications of Prosecuting Aviation Personnel for Accidents* (UK: Ashgate Publishing Group, 2010) at 4; Michaelides-Mateou & Mateo (2002), at 61-62; US, *National Transportation Safety Board, Board Meeting Title [NTSB]: In-Flight Fire and Impact with Terrain, ValuJet Airlines Flight 592, DC-9-32, N904VJ Everglades, Miami, Florida, May 11, 1996* (Washington, DC: NTSB, 1997) <http://www.nts.gov/news/events/Pages/In-Flight_Fire_and_Impact_with_Terrain_ValuJet_Airlines_Flight_592_DC-9-32_N904VJ_Everglades_Miami_Florida_May_11_1996.aspx>; US, NTSB, *In-Flight, Fire and Impact with Terrain*

The need for a unified system for dealing with aviation accidents is a growing issue with important safety implications for the industry. Proponents of criminal liability in the industry strive to achieve what they believe is a balance between the aviation industry and all other industries that are not afforded the same degree of protection. A well-balanced approach towards criminalization in the aviation industry needs to be established in order to ensure both ends, that of safety as well as justice.

To understand the benefits and drawbacks of such movement, essential issues of relevance need to be considered. Examples of past incidents, followed by criminal inquiries leading to criminal proceedings, should be examined and analyzed. A thorough examination of the effect they had on the industry and the influence they had on the way investigations and judicial proceedings were dealt with should also be considered. Additionally, a comparison of different legal systems employing different methods of dealing with aviation accidents is essential to the process (e.g., the USA and its anonymous reporting system; France being a proponent of criminal proceedings and fighting against protection of information and/or identities of sources). Furthermore, a close study of the development, creation and evolution of national and international laws, which might have been the product of such issues, could be very helpful. A consideration of the procedure followed in such incidents should likewise be examined to illustrate how it affects the whole practice (the voluntary process of coming forward with information versus the mandatory process).

The movement toward criminalization has impacted the industry in an immense way. One could have confidence that the development of this movement will continue. Today, aviation is considered to be the safest universal mode of transport. Conversely, the aviation industry is one of the most dynamic emerging and evolving industries worldwide. Issues such as these need be given paramount attention, for their resolution is a means to the end of enhanced safety.

ValuJet Airlines Flight 592 DC-9-32, N904VJ Everglades, Near Miami, Florida, (Washington, DC: NTSB, 1997) online: <<http://www.nts.gov/investigations/AccidentReports/Reports/AAR9706.pdf>>.

Chapter II

A. Criminalization: Literature Review

Progress on safety entails the ability of society to move past blame and focus on supplementing and enhancing the existing systems where they fail. The question should not be “who is to blame?”, rather “how can we make it better?”. Human error can easily be turned into a crime through criminal prosecution as it singles out individuals and holds them accountable for outcomes that came about due to many contributory factors, not necessarily only acts or omissions caused by those who are criminally prosecuted. Criminally pursuing operators for committing errors leading up to catastrophes eventually leads to detrimental effects on a safety culture that the industry has been working so hard to uphold and preserve. This increasing prevalence of criminal prosecution is a threat to the notion of safety as the criminalization of professionals leads to fear and self-preservation rather than openness and contribution towards a safer system.

I. The Culture of Criminalization

The aviation industry has been increasingly witnessing a new trend towards the criminalization of human error through the criminal prosecution of aviation professionals in the wake of aviation accidents.³³ The laws used to criminally prosecute professionals in the industry are mostly derived from existing laws, which safeguard other industries aimed at criminalizing the ‘reckless endangerment of other people or property’.³⁴ This thus mirrors an evolution in the laws reflected and affected strongly by an evolution and change in morals, ethics, beliefs, and human tolerance towards certain issues.

Traditionally, the notion of what constituted an “accident” differed from what it is deemed to be in our world today. As Dekker illustrates, until the scientific revolution of the 17th century, nations found little need for the concept, as religion and superstition provided explanations for misfortunes and random occurrences, which were uncontrollable and incomprehensible as they had a divine element to them.³⁵ Over the last few decades, however, much has changed.

³³ Sidney Dekker, “The criminalization of human error in aviation and healthcare: A review” (2011) 49:2 Safety Science 121 [Dekker (2011)].

³⁴ See *ibid.*

³⁵ See *ibid.*

Accidents are now perceived as evidence of lack of management of an existing risk. This leads to the belief that human error consisting of acts or omissions led to a mismanagement of the risk in question.³⁶

The question remains: “What is an accident for the purposes of aviation investigations?” The term “accident” for the purposes of this paper, as well as the realms of safety and security in international civil aviation is defined under Chapter 1 of Annex 13 of the Chicago Convention³⁷, which was also adopted by the European Union in Council Directive 94/56/EC.³⁸ The definition establishes that an “accident” shall be deemed “an occurrence associated with the operation of an aircraft...in which a person is fatally or seriously injured as a result of being in the aircraft...or direct exposure to jet blast, except when the injuries are from natural causes, [or] self-inflicted by other persons...”³⁹. Then again, the Annex, does not only deal with accidents as defined therein, but it is also aimed at covering aviation accidents as well as serious incidents.⁴⁰ Although the

³⁶ See *ibid.*

³⁷ See Paul Stephen Dempsey (2008), *supra* note 7 at 20.

³⁸ Council Directive 94/56/EC of 21 November 1994.

³⁹ See *Chicago Convention*, *supra* note 7, ann 1, c 1:

An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

(a) *a person is fatally or seriously injured as a result of:*

- *being in the aircraft, or*
- *direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or*
- *direct exposure to jet blast,*

except when the injuries are from natural causes, self inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

(b) *the aircraft sustains damage or structural failure which:*

- *adversely affects the structural strength performance or flight characteristics of the aircraft, and*
 - *would normally require major repair or replacement of the affected component,*
- except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or*

(c) *the aircraft is missing or is completely inaccessible.*

Note 1. – For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO.

Note 2. – An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

⁴⁰ See *ibid.*:

An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Note. – The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in the Accident/Incident Reporting Manual (Doc 9156).

An incident involving circumstances indicating that an accident nearly occurred.

Note 1. – The difference between an accident and a serious incident lies only in the result.

Note 2. – Examples of serious incidents can be found in Attachment C of Annex 13 and in the Accident/Incident Reporting Manual (Doc 9156).

word “accident” will be used to cover all three for the purpose of this paper (i.e., accidents, incidents, and serious incidents) it is worth noting that they have different meanings for the purposes of Annex 13 of the Chicago Convention.

A main issue with this new approach is that human error is usually not the sole contributor to an aviation accident. As Shappell and Wiegmann state:

*Simply writing off aviation accidents merely to pilot error is an overly simplistic, if not naïve, approach [...] After all, it is well established that accidents cannot be attributed to a single cause, or in most instances, even a single individual. In fact, even the identification of a ‘primary’ cause is fraught with problems. Instead, aviation accidents are the result of a number of causes [...]*⁴¹

Almost all accident investigations eventually come to the same conclusion, that being that the main cause behind these accidents is systemic shortcomings present in all organizations. Very often organizational interventions, which could have thwarted the accident sequence, will surface proving that human error alone was not the conclusive or determinant factor for an aviation accident. Although such revelations do not always mean that if things had taken a different course, the accident would not have occurred.⁴²

According to Dr. Shappell and Dr. Wiegmann, a comprehensive human factor analysis and classification system (otherwise referred to as HFACS) systematically examines the underlying human causal factors in the aftermath of aviation accidents improving the quality of the accident investigations. The esteemed scholars believe that HFACS is capable of aiding safety professionals in reducing the rate of aviation accidents through ‘systematic, data-driven investment strategies and objective evaluation of intervention programs’.⁴³

The Swiss Cheese model of accident causation is a model used for the analysis and management of risk. The model was formulated by Dante Orlandella and James T. Reason illustrating that although many layers of defense exist between the dangers and the occurrence of

⁴¹ US, Shappell, Scott A & Douglas A Wiegmann, *Human Factors Analysis of Aviation Accident Data: Developing a Needs-Based, Data-Driven, Safety Program* (US: Department of Transportation, 1999).

⁴² See Chapter II for examples of such accidents including Air France Flight 296, which after long technical and criminal investigations as well as prosecution of numerous aviation professionals including the pilot, it was discovered that the probable cause might have been due a number of organizational and administrative factors including wrong programming of course the flight was supposed to follow.

⁴³ See US, Shappell, Scott A & Douglas A Wiegmann, *Human Factors Analysis of Aviation Accident Data: Developing a Needs-Based, Data-Driven, Safety Program* (US: Department of Transportation, 1999).

accidents, there has to be flaws in each layer to allow for such an occurrence; only when such flaws are therefore aligned will the accident occur.

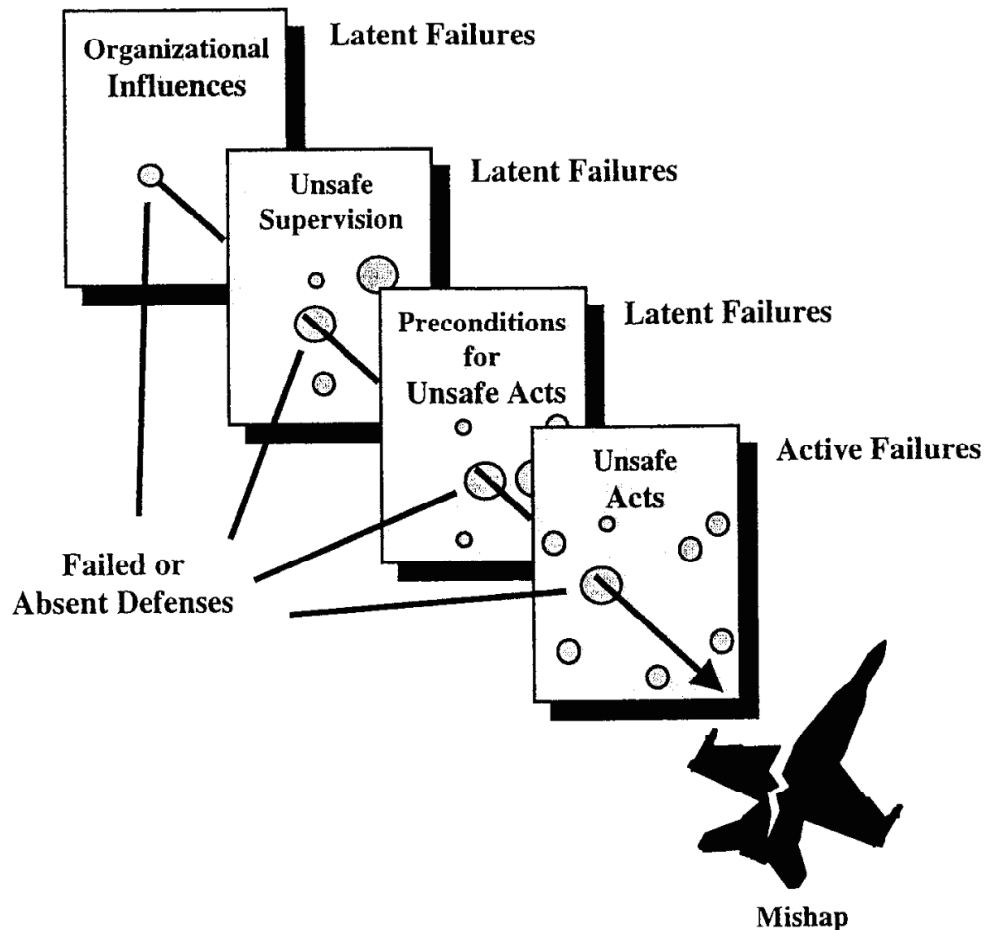


Figure 1: The “Swiss Cheese” model (adapted from Reason, 1990)⁴⁴

Other scholars and practitioners perceive the movement towards criminalization of human error as the product of the increasingly flawless performance of some systems including that of aviation, which has cultivated a strong belief in the lack of misfortunes and failure within the society. This has left cultures of today with a need for an explanation when something goes wrong, as there is no logic behind the lack of accountability any more. Furthermore, the media

⁴⁴ See Belgium, European Organization for the Safety of Air Navigation, *Revisiting the “Swiss Cheese” Model of Accidents*, (Brussels: EUROCONTROL, 2006), figure 7 at 10, online: <https://www.eurocontrol.int/eec/gallery/content/public/document/eec/report/2006/017_Swiss_Cheese_Model.pdf>.

has also played its important part in this growing culture and trend towards criminalization of human error. The ease of accessibility to information and knowledge leaves the mass media with power over the over dramatization and celebration of certain accidents and incidents while ignoring others.⁴⁵ This has been seen to lead to anxiety fostering mounting societal intolerance in turn leading to political pressures that call for judicial and political decisions and actions. Yet everyone seems to be overlooking that this steers us towards a tendency to prosecute aviation professionals who contributed to or played a role in aviation accidents without the existence of any intentional elements. After all, as Chapman asserted, “Dispensing mistakes happen. And even with the introduction of robots and Standard Operating Procedures, the Utopian ideal of a word without errors is closer to fantasy than reality.”⁴⁶

II. *The Detriments of Criminalization*

Criminal prosecution differs from civil litigation in many respects. It is concerned with punishment and punitive outcomes rather than aiming at fixing the problem that led to the accident. As Dekker points out, the repercussions of criminal prosecution have no rehabilitative effect and as a consequence safety in the industry is not enhanced following the incarceration or punishment of aviation professionals.⁴⁷ Even proponents of criminalization tend to agree with this statement to some extent. A good example is that which followed the 1996 ValuJet accident.⁴⁸ Although the editor of Aviation Week and Space Technology made a statement affirming “[p]rosecutors were right to bring charges. There has to be some fear that not doing one’s job correctly could lead to prosecution”, two years later he rescinded it.⁴⁹ At the Royal Aeronautical Society conference in London on 28 April 2010, Skyguide's chief operating officer Dr Francis Schubert insisted that judicial intervention should not be automatic, “*the occurrence must have resulted in a formal accident, as defined by ICAO. A judicial investigation into an incident should only be considered if there is evidence of a concrete danger and not only of a*

⁴⁵ See Dekker (2011), *supra* note 33.

⁴⁶ Chris Chapman, “Dispensing errors: A criminal mistake?” *Chemist and Druggist* (2009) online: Chemist and Druggist <<http://www.chemistanddruggist.co.uk/content/dispensing-errors-criminal-mistake>>.

⁴⁷ Sidney, Dekker, “When human error becomes a crime” (2003) 3 *Human Factors and Aerospace Safety* 83 [Dekker (2003)].

⁴⁸ See information therein, *supra* note 32.

⁴⁹ See Dekker (2003), *supra* note 47.

*hypothetical risk; and there must be clear evidence of gross negligence or deliberate criminal intention", he declares.*⁵⁰

One of the main concerns in regards to criminal prosecution following an aviation accident is the impact of its interference with the investigation. It hampers safety investigations, especially in instances where it is carried out parallel to the investigation or sometimes before the investigation has reached a final conclusion; it also diminishes any willingness on the part of those involved to voluntarily report any violations, errors, or mistakes that could otherwise prove helpful when forming the recommendations as well as deterring from future similar occurrence. The latter is usually referred to as the creation of “safety cultures”.⁵¹

What are safety cultures? Citing Dr. John Lauber, Dekker explains that safety cultures are “organizational cultures that encourage honest disclosure and open reflection on their own practices with the aim to constantly improve quality and safety of their products or services”.⁵² The importance of safety cultures lies within the fact that the threat of prosecution will only serve against an open industry with regular reporting and a trust mechanism working to enhance and safeguard safety. Self-preservation is a strong notion with which humans are well acquainted. Without safety cultures this threat leads to fear which in turn steers professionals towards concealing errors. After all, the Safety Data Reporting and Data Flow Task Force [SAFREP TF], established under Eurocontrol in 2005, concluded that the lack of just cultures leads to increased fear of sanctions, which eventually leads to the reduction in incident reporting, and the sharing of safety information, harming instead of improving safety.⁵³

This growing fear of prosecution is apparent in numerous nations in our world today. In Canada for example, some airlines have asked regulators to sign a non-disclosure agreement preceding any safety inspections.⁵⁴ Such movements by industry players could be aimed at protecting the anonymity of their employees so that they do not commit self-incrimination upon the disclosure of information.

⁵⁰ David Learmont, “Criminalization of Air Accidents: The Solutions May be Forged in Europe” *FlightGlobal* (18 May 2010) online: Flight Global <<http://www.flightglobal.com/news/articles/criminalisation-of-air-accidents-the-solutions-may-be-forged-in-341935/>>.

⁵¹ See Dekker (2011), *supra* note 33.

⁵² See *ibid.*

⁵³ Belgium, European Organization for the Safety of Air Navigation (EUROCONTROL), *Establishment of ‘Just Culture’ Principles in ATM Safety Data Reporting and Assessment* (Brussels: EUROCONTROL, 2006) at 10.

⁵⁴ See *ibid.*

In addition, there is no evidence that prosecution of individuals will give the reassurance and trust of victims or their families that similar accidents will not occur in the future. On the contrary, in certain cases, even the families of victims have seen it illogical and outrageous to allocate individual liability and prosecute professionals for mistakes that might have played a part or contributed in the causation chain of an accident but were not the determinant factor beyond reasonable doubt. After the aviation accident over Zagreb in 1976 for example, the father of one of the 176 victims led a campaign to prevent the incarceration of an air traffic controller who was put in jail following the accident.⁵⁵

Likewise, the detrimental psychological effects that criminal prosecution fosters in those involved are of colossal significance. It is human nature to find it difficult to forgive oneself especially in the wake of accidents which cause injury or loss of life to others. Death is devastating and so is the acceptance of failure amongst most professionals.⁵⁶ Pursuing criminal proceedings against such professionals who already blame themselves, while refusing to accept the role of other factors contributing to the consequence in question, will only affirm their guilt and self-blame. This can be illustrated in many cases, one of which includes an air force commander who committed suicide after being accused in the wake of the LAPA Flight 3142⁵⁷ crash at the Aeroparque Jorge Newbery in Buenos Aires shortly after take off, resulting in 65 fatalities and 17 severe injuries.

III. Conclusion

⁵⁵ See *ibid.*

On 10 September 1976, a mid-air collision between British Airways Trident 3B and Inex-Adria Aviopromet DC-9 took place over Zagreb, Croatia killing everyone on board both flights. British Airways Flight 476 was en route from London to Istanbul at the time, and the Inex-Adria Aviopromet Flight 550 was destined to fly from Yugoslavia to West Germany when they collided due to a procedural error on part of Zagreb's air traffic controllers. The final report of the technical investigation team stated that the accident was due to: "(1) the failure to provide the required separation of the aircraft, (2) untimely recognition of conflict separation and (3) application of imprecise measures for prevention of the collision."

Following the technical investigation, a judicial investigation was initiated and on the same day of the accident, all five controllers who were on duty during the events that led to the crash were taken into custody and were being interrogated. Although they were later released, the upper section assistant controller remained in custody up until the trial. Charges were then filed against all the controllers however only the latter controller was found guilty and sentenced to seven years of imprisonment. The controller had been on his third consecutive day of a 12-hour shift and was the youngest member of the staff. See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 56.

⁵⁶ See *supra* note 53.

⁵⁷ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 89.

Accidents are not caused solely by human error; on the contrary, as specified earlier they are the result of the alignment of numerous contributions, which eventually add up to the accident itself. This is something that is entirely left abandoned by the process of blame allocation. It is true that accountability is an essential component of every society as every culture demands that individuals and organizations are called upon to justify their actions and behaviors to others. However, such expectation is not a unitary concept as it differs as the relationships among entities of a culture are different.⁵⁸ The decline in reporting as well as openness in the industry thus can only bring about one outcome, that being the erosion of a safety culture, where accountability will serve no one. Societies need to let go of the utopian ideal of free will and that the occurrence of accidents is driven by choices made by individuals amounting to the existence of willful negligence or intent. According to Dekker,

*Operators such as pilots and air traffic controllers are 'narrowly embedded'; they are 'configured in an environment and assigned a place which will provide them with observational or derived knowledge of relevant facts and states of affairs'. Such environments are exceedingly hostile to the kind of reflection necessary to meet the regulative ideal of individual moral responsibility.*⁵⁹

After all, criminal prosecution not only has nothing to offer in terms of safety enhancement in the industry, it is a deterrent from achieving it. More importantly, as explained above, it interferes with the investigation procedure, eradicates the safety culture in the aviation industry, and imposes psychological effects on the professionals involved. How can we shift away from this trend? The solution is simple. It includes following the examples of blame-free cultures. A good example of a blame-free culture would be found among the Sherpas in Nepal.⁶⁰ In such cultures, disagreements are settled peacefully through informal procedures aiming at reconciliation. This is also very common amongst Scandinavian cultures that rarely resort to criminal prosecution.⁶¹

B. Accidents Investigations and Criminal Proceedings

⁵⁸ See Dekker (2003), *supra* note 47.

⁵⁹ See *ibid.*

⁶⁰ See *ibid.*

⁶¹ See *ibid.*

This segment will be exploring the process and aim of accident investigations while clarifying the boundaries of Annex 13 and its applicability in the different States. It will, additionally, explore Annex 13's applicability in the different States, specifically in the European Union [EU] – in the light of EU Directives. Furthermore, it will demonstrate how Annex 13, The Manual of Aircraft Accident, and the EU Directive nonetheless fail to set down a unified system for the process of the investigation as well as evidence and data collection and analysis, leading to the dire consequences of recommendations being rendered unreliable and the scrutiny that some reports end up facing.

Traditionally, limited knowledge and expertise, together with the technological barriers and insufficient experience in the field were present in the industry. The combination of the latter restricted investigators from reaching reliable results following an accident investigation. Conversely, the rapid technological advancements in recent years have allowed investigators to identify latent and active failures as well as contributory factors more readily through the developing techniques including computer animation as well as digital flight data recorders.⁶²

After the Accident takes place and the State of Occurrence becomes aware of it, a specialized group of professionals otherwise referred to as the “Go Team” is dispatched to the sight to begin reconstructing the sequence of events leading up to the accident. The Group consists of professionals qualified in many areas related to aviation including cockpit voice recorder analysis, air traffic control, aircraft performance, human performance, flight data analysis, maintenance, meteorology etc. The investigation is then commenced to collect evidence; review and analyze it; provide a report on the results; and make recommendations based on the findings for the purposes of enhancing aviation safety.

The United States [US] National Advisory Committee for Aeronautics was the first to lay down the procedure for accident investigation in aviation in 1928. Under these provisions, investigators were required to consider the immediate and underlying factors of an accident to establish and apportion blame. In spite of this, following the Chicago Conference in 1944 and the establishment of ICAO a few years later, a different system was established to govern this area of aviation. This included provisions on the responsibilities of Contracting States following an aviation accident. Consequently, the Accident Investigation Division developed SARPs between 1946 and 1947 to govern investigations of aviation accident. These were later compiled into what

⁶² See Michaelides-Mateou & Mateou (2002), *supra* note 32 at 4.

is now known as Annex 13 to the Chicago Convention. Under the Annex, as specified by the Chicago Convention, the aim of an aviation accident shifted from one probing for accountability purposes, to enhancing safety through the provision of a mechanism of reports and recommendations.

I. *Annex 13 Overview*

As defined by Annex 13, an investigation is a “*Process conducted for the purpose of accident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations.*”⁶³ Annex 13 hence aims to standardize the procedure of reporting and establish a process which would ensure the participation of experts in the investigation process.⁶⁴

Chapter 1 provides definitions of terms for the purposes of the Annex. Chapter 2 deals with its applicability, and Chapter 3 addresses the evidence and the objective of the investigation. Thus under Chapter 3, Paragraph 3.1 of the Annex, the purpose of the investigation of an aviation accident is made clear. As stated earlier the objective of an accident investigation became the prevention of re-occurrence not the apportionment of blame or liability.⁶⁵

Chapter 4 lays down the procedures to be followed by the State of Occurrence as well as the other interested parties regarding the notification of other interested parties and organizations. States other than the State of Occurrence, such as the State of Registry⁶⁶, Manufacture⁶⁷ and Design⁶⁸, Operator⁶⁹, Nationality of passengers, etc. are entitled to participate in the investigation

⁶³ See *Chicago Convention*, *supra* note 7, ann 13, c 1.

⁶⁴ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 34.

⁶⁵ See *Chicago Convention*, *supra* note 7, ann 13, c 3, para 3.1.

⁶⁶ See *Chicago Convention*, *supra* note 7, ann 13, c 1:

State of Registry. The State on whose register the aircraft is entered

Note. – In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).

⁶⁷ See *ibid.*

State of Manufacture. The State having jurisdiction over the organization responsible for the final assembly of the aircraft.

⁶⁸ See *ibid.*:

State of Design. The State having jurisdiction over the organization responsible for the type design.

⁶⁹ See *ibid.*:

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

upon the invitation of the State of Registry or by submitting a request to the latter asking to be part of the investigation through the appointment of ‘accredited representatives’ and technical advisors after being notified, as indicated by the Annex.⁷⁰ Apart from a request or an invitation to participate, Annex 13 allows the State of Occurrence to delegate the whole or any part of the investigation to another State by mutual agreement.⁷¹ The reason behind the latter is that the industry and ICAO’s acknowledgment of how demanding and expensive the investigation may be – the State of Occurrence, may after all be ill equipped in the technology and expertise needed to conduct a full proper investigation.

Chapter 5 revolves around the actual investigation, dealing with the responsibilities for instituting an investigation, its organization, and the conduct and participation of other interested States throughout the procedure. Paragraph 5.4.1 states, “*Any judicial or administrative proceedings to apportion blame or liability should be separate from any investigation conducted*

⁷⁰ See *Chicago Convention*, *supra* note 7, ann 13, c 4, para 4.1:

The State of Occurrence shall forward a notification of an accident or serious incident with a minimum of delay and by the most suitable and quickest means available to:

- a) the State of Registry;*
- b) the State of the Operator;*
- c) the State of Design;*
- d) the State of Manufacture; and*
- e) the International Civil Aviation Organization, when the aircraft involved s of a maximum mass over 2 250 kg.*

However, when the State of Occurrence is not aware of a serious incident, the State of Registry or the State of the Operator, as appropriate, shall forward a notification of such an incident to the State of Design, the State of Manufacture and the State of Occurrence.

Note 1. – *Telephone, facsimile, e-mail or the Aeronautical Fixed Telecommunication Network (AFTN) will in most cases constitute “the most suitable and quickest means available”. More than one means of communication may be appropriate.*

Note 2. – *Provision for the notification of a distress phase to the State of Registry by the rescue coordination centre is contained in Annex 12.*

* Although the State of Nationality of passengers is not included in the list of States to be notified under the Annex, such States outside the list provided for may be added upon becoming known at the time of initial notification. See also *Chicago Convention*, *supra* note 7, ann 13, c 5, para 5.27:

A State which has a special interest in an accident by virtue of fatalities or serious injuries to its citizens shall, upon making a request to do so, be permitted by the State conducting the investigation to appoint an expert who shall be entitled to:

- a) visit the scene of the accident;*
- b) have access to the relevant factual information;*
- c) participate in the identification of the victims;*
- d) assist in questioning surviving passengers who are citizens of the expert’s State; and*
- e) receive a copy of the Final Report.*

⁷¹ As an example, Malaysia stepped aside and allowed the Netherlands to investigate the downing of Malaysia Airlines flight 17 by Russian separatists in Ukraine following the accident.

under the provisions of this Annex”⁷². Nevertheless, this does not ensure that in practice, the investigation and evidence used therein will not be used in legal proceedings.⁷³

Although most States have an aviation regulating body containing an independent investigation division as prescribed by the Chicago Convention, not all agencies are equal in expertise, experience, budgets, political and/or other influences. The most prominent of these agencies are the National Transportation Safety Board⁷⁴ [NTSB], The European Aviation Safety Agency⁷⁵ [EASA], The Australian Transport Safety Bureau⁷⁶ [ARSB], the Bureau d’Enquetes et d’Analyses [BEA], and the Transportation Safety Board of Canada⁷⁷ [TAISB].

Under Annex 13, the accident investigation authority is required to have independence in the conduct of the investigation as well as unrestricted authority for the purposes of conducting an accident investigation.⁷⁸ Paragraph 5.10 on coordination between the Investigator-in-charge

⁷² See *Chicago Convention*, *supra* note 7, ann 13, c 5, para 5.4.1.

⁷³ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 35.

⁷⁴ The NTSB is an independent US government investigation agency, which deals with accident investigations for all modes of transportation, including civil aviation. Congress charges it with the determination of the probable cause of accidents along with the promotion of safety in the industry. The NTSB was set up under the *Air Commerce Act* of 1926 through which Congress charged the US Department of Commerce with the investigation of aviation accidents until the responsibility was later transferred to the Civil Aeronautics Board’s Bureau of Aviation Safety after its creation in 1940. See information therein online: <<http://www.nts.gov/about/pages/default.aspx>>.

⁷⁵ The European Aviation Safety Agency [EASA] is a European Union Agency created in 2003 to manage safety, certify aviation products, authorize foreign operators, advices on the drafting of EU legislation, monitors and implements safety rules, amongst other things. By 2008, EASA also took over the functions of the Joint Aviation Authorities. See information therein online: <<https://www.easa.europa.eu/the-agency>>.

⁷⁶ The Australian Transport Safety Bureau [ATSB] is an Australian national transport safety investigator whose function is to improve safety in aviation, marine and rail transportation. The Agency was established in 1999 combining the Bureau of Air Safety Investigation, Marine Incident Investigation Unit, and parts of the Federal Office of Road Safety. It is the federal body responsible to investigate transportation accidents. The ATSB is governed by a Commission and considered to be separate from transport regulators, policy makers, and service providers. See information therein online: <https://www.atb.gov.au/about_atb/overview.aspx>.

⁷⁷ The Transportation Accident Investigation and Safety Board [TAISB] is an independent agency created under the *Canadian Transportation Accident Investigation and Safety Board Act*, which came into force in 1990. The Agency investigates accidents and makes safety recommendations in aviation, rail, marine and pipeline transportation. It also identifies safety deficiencies, makes recommendations to reduce those deficiencies, and reports publicly on investigation findings amongst other things. See information therein online: <<http://www.tsb.gc.ca/eng/qui-about/index.asp>>.

⁷⁸ See *Chicago Convention*, *supra* note 7, ann 13, c 5, para 5.4:

The accident investigation authority shall have independence in the conduct of the investigation and have unrestricted authority over its conduct, consistent with the provisions of this Annex. The investigation shall include:

- a) the gathering, recording and analysis of all available information on that accident or incident;*
- b) if appropriate, the issuance of safety recommendations;*
- c) if possible, the determination of the causes; and*
- d) the completion of the final report.*

When possible, the scene of the accident shall be visited, the wreckage examined and statements taken from witnesses.

See also *Chicago Convention*, *supra* note 7, ann 13, c 5, para 5.4.1:

and the judicial authorities nonetheless clarifies that “*the State conducting the investigation shall recognize the need for coordination between the investigator-in-charge and the judicial authorities [...]*”⁷⁹

A main issue remains whether evidence presented by personnel involved should remain confidential or publicly available. Although paragraph 5.12⁸⁰ addresses the non-disclosure of records, this has proven in practice to not rule out such records and voluntarily reported information or testimonies from being used consequently in disciplinary, civil or criminal proceedings. This will be discussed later on in this Chapter.

Chapter 6, entitled “Final Report” discusses the format that the Final Report of an investigation should have, the responsibilities of the states involved in regards to consent needed, consultation, recommendations, comments, and the time frame during which the report should be circulated and submitted as well as its release and final safety recommendations therein with the responsibilities of the states receiving the latter.

Chapter 7 discusses the types of reports that may be required – Preliminary Report⁸¹, and Accident/Incident Data Report⁸² – providing where guidance for their preparation could be found. Finally, Chapter 8 provides accident prevention measures.

Recommendation. – Any judicial or administrative proceedings to apportion blame or liability should be separate from any investigation conducted under the provisions of this Annex.

⁷⁹ See Chicago Convention, *supra* note 7, ann 13, c 5, para 5.10:

Note 1. - The responsibility of the State of Occurrence for such coordination is set out in 5.1.

Note 2. – Possible conflicts between investigating and judicial authorities regarding the custody of flight recorders and their recordings may be resolved by an official of the judicial authority carrying the recordings to the place of read-out, thus maintaining custody.

⁸⁰ See Chicago Convention, *supra* note 7, ann 13, c 5, para 5.12:

The State conducting the investigation of an accident or incident shall not make the following records available for purposes other than accident or incident investigation, unless the appropriate authority for the administration of justice in that State determines that their disclosure outweighs the adverse domestic and international impact such action may have on that or any future investigations:

- a) all statements taken from persons by the investigation authorities in the course of their investigation;
- b) all communications between persons having been involved in the operation of the aircraft;
- c) medical or private information regarding persons involved in the accident or incident;
- d) cockpit voice recordings and transcripts from such recordings; and
- e) opinions expressed in the analysis of information, including flight recorder information.

See also Chicago Convention, *supra* note 7, ann 13, c 5, para 5.12.1:

These records shall be included in the final report or its appendices only when pertinent to the analysis of the accident or incident. Parts of the records not relevant to the analysis shall not be disclosed.

Note. – Information contained in the records listed above, which includes information given voluntarily by persons interviewed during the investigation of an accident or incident, could be utilized inappropriately for subsequent disciplinary, civil, administrative and criminal proceedings. If such information is distributed, it may, in the future, no longer be openly disclosed to investigators. Lack of access of such information would impeded the investigation process and seriously affect flight safety.

⁸¹ See Chicago Convention, *supra* note 7, ann 13, c 7, para 7.1:

II. *Australia and the European Union*

Most Member States have incorporated Annex 13 within their national laws. An example is the Australian *Transport Safety Investigation Act 2003*. Section 7(1) of the Act reiterates the objective of an accident investigation stating:

The main object of this Act is to improve transport safety by providing for:
*(a) the reporting of transport safety matters; and (b) independent investigations into transport accidents and other incidents that might affect safety; and (c) the making of safety action statements and safety recommendations that draw on the results of those investigations; and (d) publication of the result of those investigations in the interests of transport safety.*⁸³

When the aircraft involved in an accident is of a maximum mass of over 2 250 kg, the State conducting the investigation shall send the Preliminary Report to:

- a) the State of Registry or the State of Occurrence, as appropriate;*
- b) the State of the Operator;*
- c) the State of Design;*
- d) the State of Maintenance;*
- e) any State that provided relevant information, significant facilities or experts; and*
- f) the International Civil Aviation Organization.*

See also *Chicago Convention*, *supra* note 7, ann 13, c 7, para 7.2:

When an aircraft, not covered by 7.1, is involved in an accident and when airworthiness or matters considered to be of interest to other States are involved, the State conducting the investigation shall forward the Preliminary Report to:

- a) the State of Registry or the State of Occurrence, as appropriate;*
- b) the State of the Operator;*
- c) the State of Design;*
- d) the State of Manufacture; and*
- e) any State that provided relevant information, significant facilities or experts.*

⁸² See *Chicago Convention*, *supra* note 7, ann 13, c 7, para 7.5:

When the aircraft involved in an accident is of a maximum mass of over 2 250 kg, the State conducting the investigation shall send, as soon as practicable after the investigation, the Accident Data Report to the International Civil Aviation Organization.

See also *Chicago Convention*, *supra* note 7, ann 13, c 7, para 7.1:

Recommendation. – *The state conducting the investigation should upon request, provide other States with pertinent information additional to that made available in the Accident/Incident Data Report.*

See also *Chicago Convention*, *supra* note 7, ann 13, c 7, para 7.1:

If a State conduct an investigation into an incident to an aircraft of a maximum mass of over 5 700 kg, that State shall send, as soon as is practicable after the investigation, the Incident Data Report to the International Civil Aviation Organization.

Note. – *The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in Attachment C.*

⁸³ See *Transport Safety Investigation Act 2003*, Law No 18 April 2003, online AustLII: <http://www.austlii.edu.au/au/legis/cth/num_act/tsia2003374/s7.html>.

Section 7(3) also clarifies that the aim of an investigation under the Act is not to apportion blame or liability or assist in court proceedings.⁸⁴

Such practice is also reflected in the European Union through its enactment of Directives reflecting the Annex over the years. Directive 80/1266/EEC was the first legislation adopted by the Community in 1980 dealing with cooperation and mutual assistance between Member States in the investigation of aviation accidents. This was later replaced by Directive 94/56/EC⁸⁵, which made it mandatory to investigate all accidents in civil aviation. Resembling the Annex, it also declared the sole objective of investigations as the prevention of future occurrences, which need to be conducted by independent civil aviation entities.⁸⁶ Directive 94/56/EC was a huge leap towards the harmonization of the investigation of aviation accidents in the EU. In 2010 though, the European Commission reviewed the legal framework of the EU on civil aviation accident and incident investigation, which resulted in the adoption of Regulation (EU) No. 996/2010⁸⁷ to supplement and amend the existing system.

III. *Lack of Uniformity*

Apart from Annex 13, The Manual of Aircraft Accident Investigation [Manual] of ICAO also refers to the conduct and process of an investigation. It provides a guide for the investigators with the aim of establishing a uniform system and process of gathering and reviewing evidence, the sharing of information gathered throughout the investigation, the process of elimination used by the investigators upon arrival on the accident site, warnings on how to avoid presumptuous conclusions, etc. Even so, this does not denote that in practice there is a proper uniform system

⁸⁴ See *ibid*:

The following are not objects of this Act:

- (a) *apportioning blame for transport accidents and incidents;*
- (b) *providing the means to determine the liability of any person in respect of a transport accident or incident;*
- (c) *assisting in court proceedings between parties (except as expressly provided by this Act);*
- (d) *allowing any adverse inference to be draw from the fact that a person is subject to an investigation under this Act.*

⁸⁵ EU, *Fundamental Principles Governing the Investigation of Civil Aviation Accidents and Incidents 94/56 of 1 January 1985*, [1995] L 319.

⁸⁶ See *ibid*, art 6.1:

The body or entity concerned shall be functionally independent in particular of the national aviation authorities responsible for airworthiness, certification, flight operation, maintenance, licensing, air traffic control or airport operation and, in general, of any other party whose interests could conflict with the task entrusted to the investigating body or entity.

⁸⁷ EC, *Council Regulation 996/2010 on the Investigation and Prevention of Accidents and Incidents in Civil Aviation*, [2010] OJ L 295 [Regulation 996].

of investigation and reporting followed by all ICAO Member States. One may still assert that the reports conducted over the years by the differentiating states have been anything but uniform in practice. Although the literal format of the report is provided for through the Manual and other guidelines offered by ICAO, the procedure for the analysis of data gathered for the investigation process, which affect the report itself, are not specified. As there is little guidance on data analysis and the ICAO report format is silent on the matter, the results of analysis differ depending on where and how they are conducted.

Examples of such lack of uniformity that raised controversy and discussion among the industry are the Munich air disaster of 1958 and the California air accident of 1994.⁸⁸ The former concerns an Airspeed Ambassador, which crashed on its third attempt at take-off from a runway covered in slush at the Munich-Riem Airport in West Germany. The investigation by West German airport authorities blamed the pilot at the time, stating that the cause of the accident was due to the pilot not de-icing the aircraft's wings although there were eyewitness statements to the contrary. Later it was concluded that the crash was indeed caused by slush on the runway, which had reduced the speed of the aircraft immensely while attempting take-off, and the pilot was cleared approximately ten years following the accident. This primary basis for legal action taken by the German authorities against the pilot was based on the icy condition of the wings some time following the accident. Also, they had relied on photographs taken of the plane before take-off showing snow on the upper wing surfaces, later discovered to have been due to high sunlight exposure.

As for the latter accident, it revolved around the crash of American Airlines Flight 965, a regularly scheduled flight from Miami International Airport in Florida to Alfonso Bonilla Aragon International Airport in Columbia. While on route from Florida to Colombia, the Boeing 757 crashed into a mountain in Buga, Columbia due to navigational errors by the flight crew according to the report of the Colombian Special Administrative Unit of Civil Aeronautics. Although the US District Judge ruled against the deceased pilot as having committed "willful misconduct" in 1997, this ruling was reversed in 1999 by the US 11th Circuit Court of Appeals in Atlanta. The accident report was heavily criticized by many including a pilot with the Colombian airline Avianca, who was also the secretary of the Air Safety Committee of the Colombian Pilots Association, alongside two American pilots stating that full responsibility should not have fallen

⁸⁸ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 48.

on the pilots as the evidence were clear to the partial fault of the Cali controllers and the radar which was not working at the time.

Lacunae exist in every aspect of the system, from the lack of consistency in the conduct the investigation is carried out, to the process of data analysis as well as the evidence gathering process. All of this vagueness and diversity leads to poor and unsound recommendations at the end of a report, which in turn hampers the purpose of the accident investigation to begin with – that being the prevention of future occurrences of a similar nature. The inference that one may draw from the aforementioned evidence is simple. Guidance on the procedure of the investigation, specifically of the collection, preservation, and analysis of evidence, would be of immense assistance. The need for a formal methodology providing guidelines, SARPs on the investigation process could come a long way. This may be developed through the formation of an ICAO working group focused on achieving the stated task. Also, States could benefit from an ICAO Task Force providing assistance in training investigators, rendering such training mandatory through certifications awarded following completion of a course(s). Without such clear methodology or guiding material, investigators face many difficulties in conducting investigations, which would then rarely lead to effective safety recommendations. The provision of a system in place will increase efficiency and effectiveness of the investigations and provide global harmonization in the field improving the quality of safety recommendations resulting from investigation reports. However, this is an area of study that requires more research and analysis.

C. Criminal Proceedings, Data Protection, and Anonymity

This section will address the diverse criminal proceedings followed dependent on the distinctive national laws aimed at the criminal prosecution of aviation professionals in each State. It will demonstrate the principle of State sovereignty on the issue under Article 12 of the Chicago Convention; how such concept of sovereignty amounts to vagueness and uncertainty in the system; and the manner in which, as a result, aviation professionals become unaware of whether their behavior or omissions amount to criminal actions from one country to another. This part will also touch upon the subjects of the diverse reporting systems (i.e., voluntary and mandatory reporting systems) with a clear indication as to why a concrete reporting system is desirable for the adequate operation of safety management systems required by ICAO.

Moreover, it will focus on data and personnel protection; the degrees of protection offered by different states, or lack thereof, and the manner in which the latter could cause a problem with a discussion of whether such protection is essential or not for the purpose of the investigation.

Another irregular area, which poses a major issue therefore, is the non-uniform system of criminal prosecution following an aviation accident. Thus aside from the technical investigation, after certain aviation accidents, judicial inquiries are initiated for the apportionment of blame and liability. Such judicial inquiries and proceedings differ from State to State depending on multiple factors, including whether the legal system in the State concerned is that of common law or civil law.

Article 12 of the Chicago Convention states:

*Each contracting State undertakes to adopt measures to ensure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft maybe, shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention. Over the high seas, the rules in force shall be those established under this Convention. Each contracting State undertakes to ensure the prosecution of all persons violating the regulations applicable.*⁸⁹

According to Article 12 therefore, provisions establishing criminal liability in civil aviation are to be established by each Contracting State individually. This means that the laws on criminal liability in aviation can easily differ from one State to another, making it difficult for aviation professionals to grasp the extent of all such relevant laws. Such professionals are often prosecuted for negligence, willful misconduct, at times even unintentional acts or omissions leading to injuries, death, as well as damage to or loss of property.

I. *What does a “crime” entail?*

For a crime to have existed, a guilty act, otherwise known as *actus reus*, needs to exist. Apart from *actus reus*, *mens rea* (the guilty mind) needs to also be present beyond a reasonable doubt for criminal liability to arise. That being said, it is worth noting that national laws, which

⁸⁹ See *Chicago Convention*, *supra* note 7, art 12.

usually range from one State to another, define criminal negligence. One thing remains certain, though; despite the differences in criminal law and the definition of criminal negligence, Dr. Sofia Michaelides-Mateou and Captain Dr. Andreas Mateou, clarify that there are:

Generally three common levels of criminal charges: (1) ‘Criminal Negligence’ or Unintentional/Involuntary Manslaughter’ – creation of risk to others’ lives and that risk had foreseeable consequences; (2) ‘Manslaughter’ – the defendant knows that the risk his actions may result in death for others, ignores the risk and continues the behavior; (3) ‘Third degree Murder’ – in the US, holds defendants responsible for causing death of another while the defendant was committing another felony.’⁹⁰

II. *Common Law vs. Civil Law Systems:*

In common law countries, unlike civil law systems, the technical investigation is traditionally given priority and preference unless it is discovered that a crime has been committed, unlike civil law states where the judicial authorities are given more preference and enjoy greater powers.⁹¹ As aviation claims arise, they may range from negligence claims, to violations under federal laws. The burden of proof in such cases falls on the plaintiff to prove that the defendant did not behave as a ‘reasonable person’ would under such or similar circumstances. The problem with the latter statement though becomes a matter of the liberty each court extends into defining the law, which sets the ground for the offences in question and the degree of reasonableness expected.

The difficulty facing the industry is not the potential of criminal proceedings being pursued, but it seems to be the mere fact that the movement towards criminalization has made criminal prosecution of aviation professionals the rule rather than the exception. Punishing aviation professionals to satisfy political and social outcries likely will not fill the loopholes of safety in aviation and this is portrayed in many cases to be discussed later in this Chapter, including accidents such as the Gol Boeing 737 and Embraer Jet Collision in Brazil in 2006. Also, the lack of uniformity shows the gaps and downfalls of the current system which is barely functioning, without major criticisms and scrutiny. This in no way suggests that justice should

⁹⁰ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 25.

⁹¹ See *ibid* at 101.

not be served and hence accountability for criminal action must not be sought in the wake of aviation accidents involving acts of intentional harm or gross malfeasance.

In certain cases, judicial and police authorities have even interfered in accident investigations conducted by independent bodies through the seizure of evidence before such evidence could be analyzed by the technical investigation body for the purposes of the accident report and the determination of the events leading up to the accident. The crash of the Cessna Citation III is a clear example of the latter. The corporate jet crashed on 7 February 2009 near Rome after departing from Roma-Ciampino Airport destined to land at Bologna Airport. The cockpit voice recorder [CVR] and flight data recorder [FDR] were seized for a judicial inquiry following the accident, and the Agenzia Nazionale per la Sicurezza del Volo [ANSV]⁹² was later also asked to turn over documents which were vital to the technical investigation; hence, the ANSV was not able to conduct a thorough investigation regarding the events leading up to the accident.⁹³ Another accident which followed the same trend is the XL Airways Germany Flight 888T which crashed into the Mediterranean Sea, near France on 27 November 2008. After recovery of the black boxes, France took control of the FDR, interfering with the technical investigation and preventing the BEA from sending the recorders to the US for read-outs.⁹⁴

It is clear that this trend towards the criminal prosecution of aviation professionals as well as lack of anonymity and protection being afforded to such professionals has led to great outcries. Even though some systems tend to support the movement, many still oppose it and believe it jeopardizes safety and is unjust. This is also illustrated in cases where after a clash between both technical and criminal investigation, priority has been given to the former. Following the Turkish Airlines Boeing 737-8F2 flight crash while landing at Amsterdam

⁹² The Agenzia Nazionale per la Sicurezza del Volo [ANSV] is the Italian aircraft accident investigation agency, established on 25 February under legislative decree No 66 and headquartered in Rome for the investigation into aviation accidents and incidents. See [http://www.skybrary.aero/index.php/Agenzia_Nazionale_per_la_Sicurezza_del_Volo_\(Italy\)_\[ANSV\]>](http://www.skybrary.aero/index.php/Agenzia_Nazionale_per_la_Sicurezza_del_Volo_(Italy)_[ANSV]>).

⁹³ Italy, Agenzia Nazionale Per La Sicurezza Del Volo, *Relazione D'Inchiesta* (Italy: Agenzia Nazionale Per La Sicurezza Del Volo, 2009), translated in, "Accident Description", *Aviation Safety Network News Agency* (5 June 2015) online: Aviation Safety Network News Agency, <<http://aviation-safety.net/database/record.php?id=20090207-0>>; "ANSV Italy: Judicial Authorities Share FDR, CVR, Data of Fatal Citation Crash", *Aviation Safety Network News Agency* (1 April 2009) online: Aviation Safety Network News Agency, <<http://news.aviation-safety.net/2009/04/01/ansv-italy-judicial-authorities-share-fdr-cvr-data-of-fatal-citation-crash/>>.

⁹⁴ Ramon Lopez, "Accident Probes Hamstrung by Criminal Sanctions; Safety News", *Aviation Today News Agency* (6 March 2009) online: Aviation Today News Agency, <http://www.aviationtoday.com/regions/usa/Air-Accident-Probes-Hamstrung-by-Criminal-Sanctions_30521.html#.VWpKYc6pqkg>; Richard M Dunn, Sherril M Colombo & Allison E Nold, "Criminalization in Aviation-Are Prosecutorial Investigations Relegating Aviation safety to the Back Seat" (2008) 38 Brief 11.

Schiphol Airport on 12 February 2009 killing 9 passengers and crewmembers, the judiciary attempted to interfere with the investigation through seizure of evidence. The Dutch government nevertheless intervened and made clear that the Dutch Safety Board's investigation took priority over any judicial inquiries and hence the Dutch prosecutor working on the case was ordered to step down and not interfere with the technical investigation.⁹⁵

Unlike France, and some other civil law countries, in common law countries, the usual practice entails technical investigations to be given priority in the aftermath of commercial civil aviation accidents, over criminal investigations. In the US for instance, as prescribed by certain national laws (49 U.S.C. § 1131 and 49 C.F.R. § 831.5)⁹⁶ only in cases of an indication of intentional criminal acts may priority be given to the Federal Bureau to pursue criminal investigations. Thus criminal proceedings rarely result in criminal charges following lawsuits except in cases of criminal intent - usually common when suspicion of falsifications of records and documents arises. Examples of such instances include the accident of Alaska Airlines Flight 261 on 31 January 2000 and Bombardier Challenger CL-600-1A11, N370V on 2 February 2005. That was not always the case. Prior to the common current practice of technical investigations

⁹⁵ The Hague, The Dutch Safety Board, *Crashed during approach, Boeing 737-800, near Amsterdam Schiphol Airport, 25 February 2009* (The Hague: The Dutch Safety Board, 2010), in "Accident Description", *Aviation Safety Network News Agency* (5 June 2015) online: Aviation Safety Network News Agency, <<http://aviation-safety.net/database/record.php?id=20090225-0>>.

⁹⁶ See Federal Aviation Act 49 USC (1958), § 1131(a)(2)(B):

Subject to the requirements of this paragraph, an investigation by the Board under paragraph (1)(A)-(D) or (F) of this subsection has priority over any investigation by another department, agency, or instrumentality of the United States Government. The Board shall provide for appropriate participation by other departments, agencies, or instrumentalities in the investigation. However, those departments, agencies, or instrumentalities may not participate in the decision of the Board about the probable cause of the accident.

See also Federal Aviation Act 49 USC (1958), § 1131(a)(2)(B):

If the Attorney General, in consultation with the Chairman of the Board, determines and notifies the Board that circumstances reasonable indicate that the accident may have been caused by an intentional criminal act, the Board shall relinquish investigative priority to the Federal Bureau of Investigation. The relinquishment of investigative priority by the Board shall not otherwise affect the authority of the Board to continue its investigation under this section.

See also Code of Federal Regulations 49 CFR (2014), § 831.5:

Any investigation of an accident or incident conducted by the Safety Board directly or pursuant to the appendix to part 800 of this chapter (except major marine investigations conducted under 49 USC 1131(a)(1)(E)) has priority over all other investigations of such accident or incident conducted by other Federal agencies. The Safety Board shall provide for the appropriate participation by other Federal agencies in any such investigation, except that such agencies may not participate in the Safety Board's determination of the probable cause of the accident or incident. Nothing in this section impairs the authority of other Federal agencies to conduct investigations of an accident or incident under applicable provisions of law or to obtain information directly from parties involved in, and witnesses to, the transportation accident or incident, provided they do so without interfering with the Safety Board's investigation. The Safety Board and other Federal agencies shall assure that appropriate information obtained or developed in the course of their investigations is exchanged in a timely manner.

being prioritized, cases of interference by criminal investigations occurred vastly leading to the conclusion that such a system is a failure and it needs to change. A suitable example is Trans World Airlines Flight 800, which crashed on 17 July 1996 while en route from New York to Paris. The Federal Bureau of Investigation [FBI] initiated a concurrent criminal investigation in this case and hampered the technical investigation heavily as the FBI applied their own rules regarding the gathering of evidence and release of information, and was very secretive in their investigation. The NTSB investigator in this case reported that the role of the FBI was overpowering and unprofessional. The sub-committee chairman at a Senate Judiciary subcommittee hearing also stated that the FBI's involvement and leadership was a "disaster" which hampered the investigation and "risked public safety".⁹⁷ Incidents as the latter can be said to have brought about this need for separation of technical and criminal investigations as unilaterally agreed to in common law countries.

Similarly, in the UK, the investigators have unrestricted access to the crash site and power over the collection and analysis of evidence recovered. They also have the powers to call upon witnesses and request any information or documentation needed for the purpose of the investigation.⁹⁸ Although section 9 (1) of the *Air Accident Investigation Regulations 1996* requires the cooperation of the technical investigators with the authorities, as per recommendation 5 of Annex 13, the judicial proceedings in the UK are separated from the technical investigations so as to not hamper the enhancement of safety. This has been established by the 2008 Memorandum of Understanding [MoU], which states "*the public interest requires that safety considerations are of paramount importance, the consequence of which may mean that the interests of an AAIB investigation have to take precedence over the criminal investigation.*"⁹⁹ The police authorities do pursue their own line of inquiries to try to distinguish whether enough evidence exists for the initiation of criminal proceedings, however, the Department for Transport usually authorizes the Civil Aviation Authority [CAA] to investigate and prosecute noncompliance of rules and regulations concerning safety and consumer protection

⁹⁷ See Michaelides-Mateou & Mateo (2002), *supra* note 32, at 104-105.

⁹⁸ The *Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996*, Law No 2798 of November 1996, online: <<http://www.legislation.gov.uk/ukxi/1996/2798/contents/made>>.

⁹⁹ Memorandum of Understanding [MoU] between the Crown Prosecution Service and the Air Accidents Investigation Branch, Marine Accident Investigation Branch, and Rail Accident Investigation Branch (October 2008) online: <<https://www.cps.gov.uk/legal/assets/uploads/files/MOU%20between%20CPA%20and%20AIBs%20revised%20version%2030.10.08.pdf>>.

in regards the aviation sector. The CAA thus is entitled to exercise its discretion so as to whether it believes prosecution should be pursued or not, on a case-to-case basis depending on whether or not offences have been committed.¹⁰⁰ Grounds for criminal prosecution of individuals vary from failure to comply with requirements of article 148 of the *UK Air Navigation Order* [ANO], to failure to comply with the relevant EU Directive, and due to the existence of willful recklessness or gross negligence as defined by Article 73 of the ANO. Grounds for criminal prosecution of entities range under the *Corporate Manslaughter and Corporate Homicide Act 2007* if there is a gross breach in the duty of care, and thus gross negligence is an element.¹⁰¹

As apparent from evidence provided, technical investigations are given priority in common law countries. If more than one investigation is carried out at the same time though, it is clear that there is evident and harmonious cooperation between both technical and criminal investigations. An adequate illustration of such cooperation is the Pan Am crash over Lockerbie, Scotland. On 21 December 1988, Pan Am Flight 103¹⁰² took off from Frankfurt am Main Airport

¹⁰⁰ For the provision on the independence of the CAA see *Civil Aviation Act 1982*, s 2, para 4:

It is hereby declared that the CAA is not to be regarded as the servant or agent of the Crown or as enjoying any state, privilege or immunity of the Crown or as exempt from any tax, duty, rate, levy or other charge whatsoever, whether general or local, and that its property is not to be regarded as property of, or held on behalf of, the Crown.

¹⁰¹ The Crown Prosecution Services [CPS], headed by the Director of Public Prosecutions, is the leading public prosecuting agency for coordinating and running criminal prosecutions in the UK. It is responsible for the provision of legal advice to the police and other investigative bodies throughout the course of a criminal investigation in order to help determine whether criminal charges should be filed following the investigation or not. The Special Crime Division of the CPS is at the helm of corporate manslaughter and disaster cases. Following police investigations, the CPS will thus assess the case and decide whether prosecution should be commenced. If the CPS decides that prosecution is a necessary course of action, it will weigh out the public interest to determine whether such prosecution should or should not take place.

The Air Accident Investigation Branch [AAIB] is the leading body reporting on accidents or serious incidents in aviation and is a branch of the Department for Transport. Under section 10 of MoU gives powers over the investigation to the AAIB:

AAIB Inspectors have powers to investigate all civil aviation accidents and incidents within the UK. They are appointed under section 8(1) of the Regulations and have the powers under section 9 to have free access to the accident site; the aircraft, its contents or its wreckage; witnesses; the contents of flight recorders; the results of examination of bodies; the results of examinations or tests made on samples from persons involved in the aircraft's operation and relevant information or records. They also have the power to control the removal of debris or components; examine all persons as they think fit; take statements; enter any place, building or aircraft; remove and test components as necessary and take measures for the preservation of evidence.

See *supra* note 36, at 3; See also information therein, online: <[http://www.skybrary.aero/index.php/Accident Investigation, Safety Data Disclosure %26 Related Legal Procedure: UK#Judicial Investigation](http://www.skybrary.aero/index.php/Accident%20Investigation,%20Safety%20Data%20Disclosure%20Related%20Legal%20Procedure)>.

¹⁰² For information on the accident see "Criminal Occurrence Description" *Aviation Safety Network* (13 June 2015) online: *Aviation Safety Network* <<http://aviation-safety.net/database/record.php?id=19881221-0>>; UK, AAIB, *Report on the Accident to Boeing 747-121, N739PA at Lockerbie, Dumfriesshire, Scotland on 21 December 1988*

and was destined to land in Detroit Metropolitan Wayne County Airport before it exploded above Lockerbie killing everyone on board as well as 11 residents of Lockerbie. The Air Accident Investigation Board [AAIB] commenced a technical investigation following the accident and concluded in its final report that the detonation of an improvised explosive device located in the baggage container was the cause of the accident. Only after the technical investigation came to the latter conclusion did the criminal investigation begin.

In civil law countries on the other hand, the readiness to criminally prosecute aviation professionals following an aviation accident is more evident; prominently in France, Brazil, Greece, Italy, Spain, and Indonesia as apparent in cases such as Air France Flight 447 and Concorde Flight 4590; TAM Airlines Flight 3045 and Gol Transportes Aeros Flight 1907; Helios Airways Flight 552; Scandinavian Airlines System Flight 686; Spanair Flight 5022; Garuda Indonesia Airways Flight 200 and many others. In most of these instances, the authorities were keen on jumping into criminal proceedings leading to prolonged and complicated legal suits where decisions were taken, overturned, and a huge mess was made of the situation.

The Flight Safety Foundation, an independent, non-profit, international organization heavily involved with air safety research, education and advocacy in the field as well, has heavily criticized the interference of prosecutors in ongoing technical investigations over and over again. This is apparent from its criticism of the seizure of important evidence by the authorities in the case of the Cessna Citation crash and the Air New Zealand Airbus A320 incident. In both cases the technical investigations were hampered, as such seizure of evidence did not allow technical investigators to examine evidence. The Flight Safety Foundation moreover has been a vital advocate for the movement away from criminalization in the industry unless evidence of sabotage, willful misconduct and negligence exist.

In France for instance, unlike previous illustrated examples of common law systems, national laws provide the judicial authorities with power to not merely investigate accidents, but to have complete control over the crash site, evidence therein, documents and any relevant information once it is seen that there is a possibility of the existence of a criminal offence.¹⁰³ This has been demonstrated in a number of cases, one of which is the infamous accident at the

(London: AAIB, 1990) online: <https://assets.digital.cabinet-office.gov.uk/media/5422f36ee5274a1317000489/2-1990_N739PA.pdf>; Michaelides-Mateou & Mateo (2002), *supra* note 32, at 103-104.

¹⁰³ Michaelides-Mateou & Mateo (2002), *supra* note 32, at 57:

Mulhouse–Habsheim Airport on 26 June 1988, the first crash of an Airbus 320 aircraft.¹⁰⁴ Furthermore, although the French Penal Code provides that no felony or misdemeanor exists in the absence of intent to commit such felony or misdemeanor or the “deliberate endangering of others” under Article 121-3, it also stipulates that such misdemeanor can exist where the law so provides.¹⁰⁵ In such circumstances, aviation professionals can be prosecuted without the

¹⁰⁴ The newly delivered Airbus A320 was scheduled to perform a series of flights on behalf of the Mulhouse Flying Club on the day of the accident. The pilots were to overfly the airport twice – once at low speed, and another time at high speed – for the airshow that the airclub had organized. After takeoff and a climb to 1000 feet, the crew commenced a descent as planned to reach 100 feet. The course of events that followed however, did not meet the initial plans as the descent continued to around 35 feet at a very fast pace, although go-around power was added, where it hit high trees and crashed. On impact, the right wing tore off, spilling fuel, which ignited instantly. Of the 130 passengers on board, 3 died and 50 were injured.

Following the crash, the French Minister of Transportation, Air France and Airbus Industrie publicly declared that there was no problem with the aircraft. The Bureau d’Enquetes et d’Analyses pour la Securite de l’Aviation Civile [BEA] then carried out the investigation. The official report concluded that the probable cause was a combination of:

- 1) *very low flyover height, lower than surrounding obstacles;*
- 2) *speed very slow and reducing to reach maximum possible angle of attack;*
- 3) *engine speed at flight idle;*
- 4) *late application of go-around power.*

Although the BEA concluded that the descent that took place was not a deliberate one, however it “might” have resulted from a failure by the crew to take proper account of the visual and aural information available, prosecutions commenced. Although the court attributed responsibility to the Director of the Operations of Air France as he had programmed the height for the flight, the pilot, first officer, two Air France officials as well as the president of the airclub sponsoring the show were all charged with involuntary manslaughter and found guilty. The pilot in command was sentenced to six months imprisonment and 12 months probation, while the rest were only sentenced to probation. On appeal, the pilot’s sentence was increased to 10 years. The FDR and CVR data were heavily relied on in court although there were speculations that they might have been tampered with. Ten years after the accident the Swiss Institute of Police forensic Evidence and Criminology submitted an official report stating that the black boxes used in the trial were not the ones retrieved from the aircraft according to an analysis they conducted of photographs taken from the accident showing the black boxes being carried away. The report concluded that black boxes taken from the aircraft had straight white stripes the side perpendicular to the edges, whereas the ones presented during the trial had angled white lines the side. See Michaelides-Mateou & Mateo (2002), *supra* note 32, at 57-58; Also see France, BEA, *Sur L’accident Survenu le 26 Juin 1988 a Mulhouse-Habsheim (68) a L’Airbus A 320, Immatricule F-GFKC: Rapport Final* (Paris: BEA 1990) translated in “Aviation Description” *Aviation Safety Network* (10 June 2015) online: Aviation Safety Network <<http://aviation-safety.net/database/record.php?id=19880626-0>>.

¹⁰⁵ See *French Penal Code*, art 121-3:

There is no felony or misdemeanour in the absence of an intent to commit it. However, the deliberate endangering of others is a misdemeanour where the law so provides.

A misdemeanour also exists, where the law so provides, in cases of recklessness, negligence, or failure to observe an obligation of due care or precaution imposed by any statute or regulation, where it is established that the offender has failed to show normal diligence, taking into consideration where appropriate the nature of his role or functions, of his capacities and powers and of the means then available to him.

In the case as referred to in the above paragraph, natural persons who have not directly contributed to causing the damage, but who have created or contributed to create the situation which allowed the damage to happen who failed to take steps enabling it to be avoided, are criminally liable where it is shown that they have broken a duty of care or precaution laid down by statute or regulation in a manifestly deliberate manner, or have committed a specified piece of misconduct which exposed another person to a particularly serious risk of which they must have been aware.

existence of intent and without directly contributing to causing harm or damage; any contribution creating a situation, which allows the damage or harm to exist, will suffice.¹⁰⁶ Also, charges for causing death can be brought against another person without the need to prove intent as per Article 221-6, which states that:

Causing the death of another person by clumsiness, rashness, inattention, negligence or breach of an obligation of safety or prudence imposed by statute or regulations, in the circumstances and according to the distinctions laid down by article 121-3, constitutes manslaughter punished by three years' imprisonment and a fine of €45,000.

*In the event of a deliberate violation of an obligation of safety or prudence imposed by statute or regulations, the penalty is increased to five years' imprisonment and to a fine of €75,000.*¹⁰⁷

The same principles of negligence apply in Taiwan under articles 276 and 278 of the Criminal Code in regards to causing death of another or the infliction of bodily harm to another.¹⁰⁸ As for the Italian Penal Code, to find someone guilty of causing death to another, intent does not need to be present for the death as an intention to commit a violent act regardless of the intended results suffices.¹⁰⁹ This is punishable with a sentence of between ten and eighteen

There is no petty offence in the event of force majeure.

Online:

<<http://www.legislationline.org/download/action/download/id/1674/file/848f4569851e2ea7eabfb2ffcd70.htm/previe>>; also see Michaelides-Mateou & Mateo (2002), *supra* note 32, at 23-24.

¹⁰⁶ See Michaelides-Mateou & Mateo (2002), *supra* note 32, at 23-24.

¹⁰⁷ See *French Penal Code*, art 221-6 online: <<http://www.legislationline.org/download/action/download/id/1674/file/848f4569851e2ea7eabfb2ffcd70.htm/previe>>.

¹⁰⁸ See *Criminal Code*, art 276, in Michaelides-Mateou & Mateo (2002), *supra* note 32, at 23-24:

1. *A person who negligently kills another shall be punished with imprisonment for not more than 2 years, detention or a fine of not more than 2000 yuan.*
2. *A person who in the performance of his occupation commits an offence specified in the preceding paragraph by neglecting the degree of care required by such occupation shall be punished with imprisonment for not more than 5 years, in addition thereto a fine of not more than 3000 yuan may be imposed.*

See also *Criminal Code*, art 284, in Michaelides-Mateou & Mateo (2002), *supra* note 32, at 23-24:

1. *A person who negligently causes bodily harm to another shall be punished with imprisonment for not more than 6 months, detention, or a fine of not more than 1000 yuan; if serious bodily harm results, he shall be punished with imprisonment for not more than 1 year; detention, or a fine of not more than 500 yuan.*
2. *A person who in the performance of his occupation causes bodily harm to another by neglecting the degree of care required by such occupation shall be punished with imprisonment for not more than 1 year, detention or fine of not more than 1000 yuan; if serious bodily harm results, he shall be punished with imprisonment for not more than 3 years, detention, or fine of not more than 2000 yuan*

¹⁰⁹ See Michaelides-Mateou & Mateo (2002), *supra* note 32, at 23-24.

years. Also, manslaughter does not require the element of intention and is punishable with six months to five years of imprisonment in relation to one account of manslaughter.¹¹⁰ If multiple accounts of manslaughter exist, such as in cases of an aviation accident causing the death of multiple passengers on board, these can add up to twelve years of imprisonment.¹¹¹

The cases below will illustrate the points made in this section. They are a multitude of incidents investigated under different common and civil law systems. The case studies are listed in chronological order.

❖ Alaska Airlines Flight 261

31 January 2000, Alaska Airlines Flight 261, a scheduled international flight from Lic. Gustavo Diaz Ordaz International Airport to Seattle-Tacoma International Airport crashed into the Pacific Ocean after loss of pitch control, killing everyone on board. Following an Investigation by the NTSB, it was concluded that inadequate maintenance resulted in failure of the flight control system. During the investigation, most of the fuselage as well as both the FDR and CVR were recovered. After detailed examination of the wreckage and parts retrieved, it was discovered that the acme nut around one of the jackscrews had been worn out and sheared off. The NTSB indicated that the wear occurred at a faster rate than usual coming to the conclusion that it was a maintenance error.

According to the report, contributing factors to the accident were the airlines' extended lubrication interval and the Federal Aviation Authority [FAA] approval of it, which increased the likelihood of excessive wear of the acme nut threads as well as the absence of a fail-safe mechanism to prevent the unfortunate disastrous results. Regardless, the criminal investigation did not reveal evidence of intentional wrongdoing on behalf of the airline or the maintenance company and no criminal charges were filed. Instead, after an administrative review, the FAA discovered that Alaska Airlines and three of its managers had violated safety regulations. The FAA fined the airline and revoked the licenses of two of the mechanics and suspended the license of the third mechanic.¹¹² A different result was reached in the aftermath of the Bombardier Challenger CL-600-1A11, N370V, discussed below.

¹¹⁰ See *ibid.*

¹¹¹ See *ibid.*

¹¹² US, NTSB, *Accident Investigation Report – Loss of Control and Impact with Pacific Ocean, Alaska Airlines Flight 261, McDonnell Douglas MD-83, N963AS, about 2.7 miles north of Anacapa Island, California January 31,*

❖ Bombardier Challenger CL-600-1A11, N370V

On 2 February 2005, a Bombardier Challenger CL-600-1A11, N370V dashed off the runway at Teterboro Airport in New Jersey, sliding over a highway and crashing into a warehouse injuring 20 persons, some of whom were not on board. After an investigation by the NTSB, it was determined that the probable cause of the accident was the pilot's failure to ensure that the aircraft was not loaded with more weight than the limits prescribed. Contributing factors included lack of compliance with 14 CFR Part 135 requirements, flight crew deficiencies attributable to lack of compliance with relevant provisions, lack of company oversight and operational control, and the FAA failing to oversee compliance with the relevant provisions. Criminal charges were brought against several of Platinum Jet's employees in the aftermath of the accident and the investigation. The charges included conspiracy among all professionals involved to overload planes, falsify flight documents, and violate federal safety regulations for the purposes of profit maximization. As a result, the co-founders of Platinum Jet were sentenced to 30 months and 18 months sentences with a conviction of conspiracy to commit wire fraud and to defraud the FAA. The CEO was convicted of endangering the safety of an aircraft in flight with six counts of rendering false statements regarding lack of qualification of the pilots flying charter flights.¹¹³

❖ Concorde Flight 4590¹¹⁴

2000 (Washington, DC: NTSB, 2002) <<https://app.nts.gov/investigations/summary/AAR0201.html>>; US, NTSB, *Loss of Control and Impact with Pacific Ocean, Alaska Airlines Flight 261, McDonnell Douglas MD-83, N963AS, about 2.7 miles north of Anacapa Island, California January 31, 2000* (Washington, DC: NTSB, 2002) online: <<https://app.nts.gov/doclib/reports/2002/AAR0201.pdf>>; Steve Miletich, "NTSB Blames Alaska, FAA in Flight 261 Crash," *The Seattle Times* (11 December 2002) online: *The Seattle Times*, <<http://community.seattletimes.nwsources.com/archive/?date=20021211&slug=alaska11>>.

¹¹³ US, NTSB, *Accident Investigation Report – Runway Overrun and Collision Platinum Jet Management, LLC Bombardier Challenger CL-600-1A11, N370V Teterboro, New Jersey February 2, 2005* (Washington, DC: NTSB, 2006) online: <<https://app.nts.gov/investigations/summary/AAR0604.html>>; US, NTSB, *Runway Overrun and Collision Platinum Jet Management, LLC Bombardier Challenger CL-600-1A11, N370V Teterboro, New Jersey February 2, 2005* (Washington, DC: NTSB, 2006) online: <<http://www.nts.gov/investigations/AccidentReports/Reports/AAR0604.pdf>>; Tom Troncone and Elisi Young, "Teterboro Air Crash", *The Record* (3 February 2005) online: *The Record*, <http://www.hasbrouck-heights.com/news05/teb1_05.shtml>; US Department of Justice, *Captain of Jet That Crashed at Teterboro in 2005 Charged in Superseding Indictment* (24 November 2009).

¹¹⁴ France, BEA, *Accident Survenu le 25 Juillet 2000 au lieu-dit La Patte d'Oie de Gonesse (95) au Concorde immatricule F-BTSC exploite par Air France*, (Paris: BEA, 2002) translated in "Accident Description", *Aviation Safety Network News Agency* (13 July 2015) online: *Aviation Safety Network News Agency* <<http://aviation-safety.net/database/record.php?id=20000725-0>>; "Transcript: Concorde crew's last words", *BBC News* (2 February

On 25 July 2000, Concorde Flight 4590 crashed into a hotel in Gonesse France shortly after take-off from Charles de Gaulle Airport. 109 passengers were killed in the accident. An investigation to determine the cause of the accident was instigated by the French Bureau of Enquiry and Analysis for Civil Aviation Safety (BEA). The official report, released in 2004 showed that the aircraft hit debris on the runway during take-off, which led to a tire bursting causing rubber to fly into and rupture the fuel tank, which started a fire on the aircraft. A year later, following the report, the French authorities commenced a criminal investigation, which led to criminal proceedings in front of the Criminal Court of Pontoise on 2 February 2010 – ten years after the accident had taken place. The Criminal Court eventually ruled that Continental Airlines was criminally liable and on this basis, it was fined €200,000 and ordered to pay \$1 million to Air France in damages. The Continental mechanic who allegedly fitted the metal strip causing the debris was given fifteen-month suspended prison sentence and fined € 2,000. On 29 November 2012, the Appeal Court of Versailles overturned the manslaughter convictions against Continental and the mechanic, after Court-appointed experts asserted that officials had been aware of the design problem with the Concorde and that it should have never been cleared to fly. The Court upheld the decision against Continental to pay \$1 million in damages to Air France nevertheless. This illustrates how criminal proceedings may sometimes focus more on the apportionment of blame and liability instead of understanding what really happened and working on a deterrent. Cases of the sort illustrate how the discouragement of aviation professionals from reporting potentially prevents disclosure of information essential to the safety culture in the industry.

❖ Scandinavian Airlines System Flight 686¹¹⁵

2010) online BBC News: <<http://news.bbc.co.uk/2/hi/europe/8492937.stm>>; “Concorde Cockpit Recording Released”, *The Associated Press* (31 August 2000) online: *The Independent* <<http://www.independent.co.uk/news/world/europe/concorde-cockpit-recording-released-699482.htm>>; David Rose, “Doomed”, *The Observer* (13 May 2001) online: *The Guardian* <<http://www.theguardian.com/world/2001/may/13/davidrose.focus>>.

¹¹⁵ Claudio Papi, “Jets collide on Milan runway; 118 killed” *USA Today* (10 August 2001) online: *USA Today* <<http://usatoday30.usatoday.com/news/world/2001/10/08/milan.htm>>; “Broken Radar was Factor in Italian Crash” *BBC News* (9 October 2001) online: BBC News <<http://news.bbc.co.uk/2/hi/europe/1587991.stm>>; “British Plane Crash Victims Names” *BBC News* (10 October 2001) online: BBC News <http://news.bbc.co.uk/2/hi/uk_news/1591060.stm>; Italy, NNSV, *Accident Involved Aircraft Boeing MD-87, registration SE-DMA and Cessna 535-A, registration D-IEVX Milano Linate airport October 8, 2001* (Rome: ANSV 2004) online: <<http://www.ansv.it/cgi-bin/eng/FINAL%20REPORT%20A-1-04.pdf>>; “4 Convicted in 2001

Scandinavian Airlines Flight 686, flying from Linate Airport to Copenhagen Airport crashed on 8 October 2001 when it collided during takeoff with a Cessna Citation CJ2 business jet killing everyone on board both aircrafts and causing injuries to 4 people on the ground. The ANSV commenced an investigation after the accident; however, the technical investigation was interrupted by the Italian police authorities. The aircraft debris were removed from the crash site without any regard to the technical investigation needs and seized by the judicial authorities. Moreover, the CVR was not recovered in a timely manner and was recovered 10 days later, as the authorities would not authorize access to ANSV.

The ANSV's report, published on 20 January 2004, determined that the immediate cause was the incursion of the Cessna aircraft onto the active runway. The ANSV stated that there were a number of deficiencies in the airport layout and procedures. It also clarified that blame was not to be solely placed on the pilots who were flying in extreme fog conditions and were not certified for landing with visibility less than 500 meters, yet having landed shortly before the catastrophic events took place with visibility at the airport ranging between 50 to 100 meters. The report also acknowledged that Linate Airport was operating without Runway Guard Lights being present, with non-controllable and sectionalized taxi lights, non-controllable stop bars, and in the absence of Surface Movement Radar (all of which are installations and measures needed for the prevention of runway incursions). The report also declared that clearance given by the controller did not conform to standards and practices.

The accident resulted in two trials commencing in Italy. In 2004, convictions of four defendants of manslaughter and negligence took place. The defendants were sentenced to prison terms ranging between six and a half to eight years; these included an air traffic controller and the former director of the Italian air traffic control agency. In the following year, three other employees of the Italian air traffic control agency and an airport official were also convicted of manslaughter, sentencing them to four years and four months of imprisonment. The Italian appeals court in 2006 and the Court of Cassation in 2008 upheld most of these convictions.

❖ Helios Airways Flight 552¹¹⁶

Milan Plane Crash" *NY Times* (15 March 2005); Roberto Landucci, "Court Upholds 5 Convictions in Italian Air Crash" *Reuters* (20 February 2008).

¹¹⁶ Elian Hazou, "Five face manslaughter charges over Helios Crash" *Cyprus Mail* (15 April 2009) online: Cyprus Mail <<http://web.archive.org/web/20090415154633/http://www.cyprus->

On 14 August 2005, Helios Airways Flight 522 was scheduled to fly from Larnaca International Airport to Prague Ruzyně International Airport through Greece when it crashed forty kilometers from Athens due to lack of oxygen which incapacitated all the passengers and crewmembers leaving the aircraft in flight until it ran out of fuel. All passengers and crewmembers on board were killed as a result.

At arrival from London that same day, the flight crew reported a frozen door seal and noises emanating from the right aft service door. Following the latter, a full inspection of the door was requested and upon inspection the pressurization system was set to “manual” mode. In the process, the engineer who performed the inspection failed to reset the pressurization system to “auto” mode on completion of his work before the aircraft was cleared for flight, and it was never checked by the crewmembers either. As the Boeing 737 climbed to 16,000 feet while in flight, the pilot in command contacted the company operations center to report a configuration warning and an equipment cooling system problem. By 18,000 feet, the oxygen masks automatically deployed in the passenger cabin. Before communications were cut, the Air Accident Investigation and Aviation Safety Board [AAIASB] report states that the engineer who had performed the inspection earlier that day asked the pilot if he could confirm that the pressurization panel was set to “auto”, but the pilot, who it was assumed was experiencing effects of hypoxia disregarded the question and instead asked where the equipment cooling circuit breakers were. The latter, was the last communication between the Helios operations center and the Boeing 737. The aircraft continued on its programmed route nevertheless. Two F-16 aircrafts of the Hellenic air force were then deployed, one of which reported that the pilot’s seat had been vacant and the first officer’s seat was occupied by someone “slumped over the controls”. Almost 10 minutes later, the aircraft had already been in flight for around three hours,

mail.com/news/main.php?id=43215&cat_id=1; “Helios 737 crashed with no fuel” *Flight International* (24 August 2005) online: *Flight Global* <<http://web.archive.org/web/20090212165533/http://www.flightglobal.com/articles/2005/08/24/201065/helios-737-crashed-with-no-fuel.html>>; “Cyprus Air Crash Victims’ Families Make 76 million Euro Legal Claim Against Boeing” *AFX News Limited* (25 July 2007) online: *Forbes* <<http://web.archive.org/web/20071109135405/http://www.forbes.com/business/feeds/afx/2007/07/25/afx3949967.html>>; Michele Kambas, “Cyprus Files Charges Over Airline Disaster”, (Richard Williams ed) *Reuters* (23 December 2008) online: *Reuters* (UK edition) <http://uk.reuters.com/article/2008/12/23/idUKLN513095>; George Psyllides, “Ten Years for Former Helios Bosses” *Cyprus Mail* (21 April 2012) online: *Cyprus Mail* <<http://web.archive.org/web/20120715031856/http://www.cyprus-mail.com/helios-crash/ten-years-former-helios-bosses/20120421?>>; “Defendants in Helios Case Acquitted – Full Details” *Famagusta Gazette* (22 December 2011) online: *Famagusta Gazette* <<http://famagusta-gazette.com/defendants-in-helios-case-acquitted-full-details-p13921-69.htm>>; Michaelides-Mateou & Mateo (2002), *supra* note 32, at 85-89.

the F-16 pilot reported someone not wearing an oxygen mask entering the cockpit and occupying the captain's seat; over a minute later the left engine, followed by the right engine, flamed out due to fuel depletion and the aircraft descended rapidly until it crashed. It was later brought to light that the same aircraft had experienced rapid loss of cabin pressure once before, where the crew was forced to make an emergency descent during another flight on 16 December 2004.

After the AAIASB carried out its investigation, the final report was published in November 2006. Although it did not state the "probable cause(s)", it mentioned that the direct causes of the accident were:

1. *Non-recognition that the cabin pressurization mode selector was in the MAN (manual) position during the performance of the Preflight procedure, the Before Start checklist and the After Take-off checklist.*
2. *Non-identification of the warnings and the reasons for the activation of the warnings (Cabin Altitude Warning Horn, Passenger Oxygen Masks Deployment indication, Master Caution).*
3. *Incapacitation of the flight crew due to hypoxia, resulting in the continuation of the flight via the flight management computer and the autopilot, depletion of the fuel and engine flame-out, and the impact of the aircraft with the ground.*¹¹⁷

The final report also mentioned the latent causes:

1. *Operator's deficiencies in organization, quality management and safety culture.*
2. *Regulatory authority's diachronic inadequate execution of its safety oversight responsibilities.*
3. *Inadequate application of crew resource management principles.*
4. *Ineffectiveness of measures taken by the manufacturer in response to previous pressurization incidents in the particular type of aircraft (AAIASB 2006).*¹¹⁸

On 24 July 2007, the families of the deceased filed a lawsuit against Boeing claiming that this was a recurring problem, which had also happened with other Boeing aircrafts in Ireland and Norway. In 2008, charges were brought against former members of Helios Airways for manslaughter and reckless and wanton endangerment causing death. In 2011, four were charged in the magistrate's court with manslaughter except one who had been charged in Cyprus but later

¹¹⁷ Michaelides-Mateou & Mateo (2002), *supra* note 32, at 86.

¹¹⁸ See *ibid.*

acquitted. By 2012, they were found guilty and sentenced to ten years imprisonment. After a failed attempt at an appeal, the defendants were given the option to serve their sentences or buy them out for around €75,000 each.

Parallel to the 2011 charges in Greece, Helios Airways and four of its officials were charged with 119 counts of manslaughter and causing death by recklessness/negligence in the Republic of Cyprus. The case was dismissed in 2011. On appeal by the Attorney General though, the Supreme Court ordered a new trial, where the defendants were acquitted by a majority (two to one) as it was decided that there was insufficient evidence linking the defendants to the crash.

❖ *Gol Boeing 737 Flight 1907*¹¹⁹

On 29 September 2006, Gol Airlines Flight 1907 collided in mid-air with an Embraer Legacy business jet while on route from Manaus-Eduardo Gomes International Airport to Rio de Janeiro through Brasilia. The two aircraft collided over Maro Grosso in Brazil killing all passengers and crewmember on board the Boeing 737. On the other hand, the Embraer Legacy 600 landed safely despite sustaining some damage during the crash.

The Brazilian Air Force's Aeronautical Accidents Investigation and Prevention Center [CENIPA] as well as the US NTSB, both pursued investigations into the accident and issued its final report on 10 December 2008. CENIPA's report concluded that the accident was due to errors committed by both the air traffic control [ATC] and American pilots flying the Embraer Legacy jet. Nonetheless, the NTSB stated that all pilots had acted properly and the collision was due to a combination of a variety of errors on behalf of the ATC. It was discovered that the air traffic collision avoidance system [TCAS] system was not switched on in the Legacy Embraer jet, which also had no authorization to over-fly the relevant airspace. Also, in the NTSB report, the probable cause stated was the ATC clearances given to both aircrafts to fly in opposite

¹¹⁹ See "Pilots Avoid Jail in Brazil Crash," *NY Times* (16 May 2011) online: [NY Times <http://www.nytimes.com/2011/05/17/world/americas/17brazil.html>](http://www.nytimes.com/2011/05/17/world/americas/17brazil.html); Andrew Downie & Mathew L Wald, "Brazil Lays Some Blame on US Pilots in Collision" *NY Times* (10 December 2008) online: [NY Times <http://www.nytimes.com/2008/12/11/world/americas/11brazil.html?_r=3&ref=world&=>](http://www.nytimes.com/2008/12/11/world/americas/11brazil.html?_r=3&ref=world&=>); John Nance, "Criminalizing Aviation Accidents Only Assures Repeats" *abc News* (7 December 2006) online: [abc News <http://abcnews.go.com/Travel/story?id=2707598&page=1>](http://abcnews.go.com/Travel/story?id=2707598&page=1); Brazil, Aeronautical Accident Investigation and Prevention Center [CENIPA], *Final Report A-00X/CENIPA/2008* (Brasilia: CENIPA, 2006) online: [http://web.archive.org/web/20110604124906/http://www.ntsbt.gov/Aviation/Brazil-CENIPA/Midair Collision Final Report 1907 English version.pdf](http://web.archive.org/web/20110604124906/http://www.ntsbt.gov/Aviation/Brazil-CENIPA/Midair%20Collision%20Final%20Report%201907%20English%20version.pdf); US, NTSB, *US Summary Comments on the Draft Final Report of the Aircraft Accident Involving PR-GTD and N600XL, 29 September 2006* (Washington DC: NTSB 2006) online: http://web.archive.org/web/20110604191629/http://www.ntsbt.gov/Aviation/Brazil-CENIPA/US_Summary_Comments.pdf; Michaelides-Mateou & Mateo (2002), *supra* note 32 at 90-93.

directions on the same airway. CINEPA's report also acknowledged errors on behalf of the ATC as the controllers lost contact with the Legacy Embraer and failed to hand it off to Brasilia Centre as they should have.

Parallel to the technical ongoing investigations at the time, the authorities in Brazil immediately pursued a criminal investigation, which led to the charging of two American Legacy pilots and three Brazilian air traffic controllers with negligence and involuntary manslaughter. Officials immediately detained and interviewed the crew of the Embraer Legacy jet and took possession of the black boxes, which were later sent to Canada for analysis. The passports of the two American pilots were then confiscated and the two crewmembers were forced to remain in Brazil until their documents were returned to them almost two months later. The pilots were eventually acquitted of negligence charges in 2008. In 2010 a judge overturned the previous ruling and sentenced each pilot to four years and four months to be served in the US. This case witnessed major outcry from many, including ATCOs going on strike, and pilot unions including the International Federation of Air Line Pilots Associations [IFALPA] and the Air Line Pilots Association [ALPA] protesting against the criminal prosecutions of the pilots and ATCOs stating that without intent to do harm, there should not be any allocation of criminal liability.

❖ Garuda Indonesia Flight 200¹²⁰

Garuda Indonesia Flight 200, a scheduled domestic flight between Jakarta and Yogyakarta, Indonesia crashed while attempting to land at Adisucipto International Airport on 7 March 2007 killing twenty passengers and one crewmember. The Indonesian National Transportation Safety Committee [NTSC] investigated the occurrences surrounding the accident with assistance from the ATSB, the NTSB, a representative from Boeing and the FAA. Following interviews conducted with the crewmembers and the examination of the wreckage and the cockpit recorders which contained the FDR and CVR data, the final report of the NTSC was released on 22

¹²⁰ DWI Prasetyo, *Indonesia Plane Crash Kills 23, scores escape*, online: Reuters <<http://www.reuters.com/article/2007/03/07/us-indonesia-plane-idUSSP23854920070307>>; Indonesia, National Transportation Safety Committee [NTSC], *Aircraft Accident Investigation Report KNKT/07.06/07.02.35* (Jakarta: NTSC, 7 March 2007) online: <https://web.archive.org/web/20110928004626/http://www.dephub.go.id/knkt/ntsc_aviation/baru/Final%20report%20PK-GZC%20Release.pdf>; Judith R Nemsick & Sarah Gogal Passeri, *Criminalizing Aviation: Placing Blame Before Safety*, online: American Bar Association <<http://apps.americanbar.org/litigation/committees/masstorts/articles/winter2012-criminalizing-aviation-blame-safety.html>>; Adam Gartell, *Garuda Crash Pilot's Conviction Overturned*, online: News <<http://www.news.com.au/world/garuda-crash-pilots-conviction-overturned/story-e6frfl00-1225809558244>>.

October 2007 indicating the lack of existence of any defect or malfunction to the aircraft. It was then concluded that pilot error had led to the crash due to lack of appropriate training. On 4 February 2008, the pilot was arrested and charged with six counts of manslaughter. After a testimony given by the co-pilot, the pilot in command was found guilty of negligence a year later and sentenced to two years in prison. That year, the conviction was quashed by the Indonesian High Court who came to a conclusion that the prosecution had failed to prove the pilot was “officially and convincingly guilty”. Following this case, the American Bar Association cited it in one of its reports, claiming that such prosecutions undermine the airline safety by threatening and impeding the investigation process. Many believed that the political pressure from the Australian foreign Minister had a lot to do with the commencement of prosecutions. He had after all stated *“I’ve asked our ambassador today (24 October 2007) to make it absolutely clear to the Indonesians that we want people prosecuted for this accident. I want to see people who have negligently allowed Australians [...] to be killed, I want to see those people brought to justice”* and *“ [...] I am very glad that they have reached a point now where they have charged the captain of the aircraft.”*¹²¹

❖ TAM Airlines Flight 3045¹²²

Tam Airlines Flight 3045 was a scheduled domestic flight from Salgado Filho International Airport to Congonhas-Sao Paulo Airport when it crashed on 17 July 2007 when the aircraft overran the runway during heavy rain crashing into a warehouse nearby (TAM Express). Everyone on board was killed alongside 12 people on the ground. Although it was cleared to land, the runway had been resurfaced recently but was not provided with water-channeling

¹²¹ Mark Forbes, “Garuda Pilots Face Sack, Prosecution” *The Age* (24 October 2007) online: The Age <<http://www.theage.com.au/news/world/garuda-pilots-face-sack-prosecution/2007/10/23/1192941064786.html>>; “Pilot of Garuda Plane that Crashed ‘Charged with Manslaughter’” *The Advertiser* (4 February 2008) online: The Advertiser <<http://www.adelaidenow.com.au/news/world/downer-happy-death-pilot-charged/story-e6frea8l-1111115477102>>.

¹²² See Michael Targett, “TAM A320 crash – full transcript from cockpit voice” *Flight Global* (2 August 2007) online: Flight Global <<http://www.flightglobal.com/news/articles/tam-a320-crash-full-transcript-from-cockpit-voice-215872/>>; David Learmount, “Airbus Cleared to Release TAM Accident Flight Recorder Information” *Flight Global* (25 July 2007) online: Flight Global <<http://www.flightglobal.com/news/articles/airbus-cleared-to-release-tam-accident-flight-recorder-215718/>>; David Learmount, “Probe Asks Why Airbus A320 Could Not Stop” *Flight Global* (23 July 2007) online: Flight Global <<http://www.flightglobal.com/news/articles/probe-asks-why-airbus-a320-could-not-stop-215642/>>; “Brazil Trial Over Plane Crash That Killed 199” *BBC News* (8 August 2013) online: BBC News <<http://www.bbc.com/news/world-latin-america-23609524>>; Brazil, CENIPA, *Final Report A-No 67/CENIPA/2009* (Brasilia: CENIPA, 2009) online: <<http://www.cenipa.aer.mil.br/cenipa/paginas/relatorios/pdf/3054ing.pdf>>.

grooves, and hence the aircraft did not slow down after touch down and was carried off the runway, crashing into TAM Express and exploding on impact.

CENIPA carried out the investigation following the crash. The FDR data released by Brazilian authorities to the NTSB in the US showed that the pilot had pulled the left engine thrust lever to “idle” mode but the right engine was still in “climb” mode and hence the latter accelerated with the former going into reverse leading to loss of control of the aircraft causing the crash. An investigation pursued by the Brazilian Public Safety Ministry also concluded in 2008 that the pilots mistakenly put the left engine thrust into “idle” mode because the right one had no functioning thrust reverser working at the time. The Final report, issued in 2009, demonstrated two likely possibilities of what might have happened leading to the events of the accident. One hypothesis discounted human error, but stated that a mechanical failure could have caused the accident, while the other mentioned the possibility of the pilot departing from manual procedure.

In 2011, the Brazilian Federal Public Ministry pursued criminal charges against the director of the Brazilian National Civil Aviation Agency and the two former TAM directors for negligence. In 2014, two charges against each of the former directors were dropped, and up to this day no judgment has been delivered on the remaining charges.

❖ *Spanair Flight 5022*¹²³

Spanair Flight 5022 was a scheduled domestic flight originating from Madrid-Barajas Airport destined for Gran Canaria Airport on 20 August 2008 when it crashed right after take-off killing 154 people. The flight was a Star Alliance codeshare operated on behalf of Lufthansa with 166 passengers and six crewmembers on board. At take-off, the aircraft stalled and crashed to the right of the runway. Upon investigation by the Civil Aviation Accident and Incident Investigation Commission (CIAIAC) a preliminary report released on 6 October 2008 revealed that the FDR data indicated that the aircraft took off while the flaps and slats were not deployed, as required. The CVR had revealed that the pilots omitted from checking “the flap/slat lever and

¹²³ Jim Lee, *Airlines Need to Guard Against Criminal Proceedings, says ERA*, online: Flying in Ireland <<http://flyinginireland.com/2015/05/airlines-need-to-guard-against-criminal-proceedings-says-era/>>; Judith R Nemsick & Sarah Gogal Passeri, *Criminalizing Aviation: Placing Blame Before Safety*, online: *American Bar Association* <<http://apps.americanbar.org/litigation/committees/masstorts/articles/winter2012-criminalizing-aviation-blame-safety.html>>; *re Air Crash at Madrid, Spain, on August 20*, 893 F Supp 2d 1020 (US District Court, CD Cali) at *3.

lights” item off the checklist. Furthermore, the report also revealed that the alarm that was supposed to insure the pilots were aware of the problem did not make a sound and hence the pilots were unaware of the situation and continued attempting take-off when they should have aborted. An interim report was released on 17 August 2009 confirming the findings of the preliminary report.

The final report, published on 26 July 2011 determined the cause of the accident as being: loss of control of the aircraft as a result of a stall immediately after take-off due to incorrect configuration coupled with the absence of any warning of it, the lack of recognition by the crew of the stall indications and hence failure to correct the situation after take-off and the crew’s failure to detect the error in configuration due to the improper use of the checklist. The final report also stated contributory factors: absence of any warning of incorrect take-off configuration as the warning system was not working as well as inadequate crew resource management. Meanwhile, a criminal investigation commenced by the Court of Instruction No.11 of Madrid held five Spanair employees on provisional charges of 154 counts of “imprudent homicide” and eighteen counts of “imprudent injury”. On appeal, it was held by Madrid’s Audiencia Provincial that the deceased pilots were solely to blame and the airline should only face civil liability claims by the victims and their families.

❖ *Air France Flight 447*¹²⁴

Air France Flight 447 was a scheduled flight from Rio de Janeiro, Brazil to Paris, France, which crashed into the Atlantic Ocean on 1 June 2009, after it entered a high altitude stall from which it did not recover. All 228 passengers and crewmember on board were killed. The initial investigation by the BEA into the accident was hampered because the black boxes were not recovered until approximately two years after the crash. The final report, which was released on 5 July 2012, stated that the crash was due to an incorrect reaction by the crewmembers to the autopilot disconnecting after a probable obstruction of the aircraft’s pitot tubes by ice crystals. Due to the fact that the intermediate report was not complete and the BEA had ruled out aircraft malfunction in reliance on the FDR, the Paris Tribunal de Grande Instance pursued a criminal investigation in June 2009, which eventually led to manslaughter charges filed against Air

¹²⁴ Jeff Wise, “What Really Happened Aboard Air France” *Popular Mechanics* (6 December 2011) online: Popular Mechanics <<http://www.popularmechanics.com/flight/a3115/what-really-happened-aboard-air-france-447-6611877/>>.

France and Airbus by March 2011. In October 2011, a transcript of the voice recorder was leaked and published in a book by Jean Pierre Otelli. Much controversy and outcry followed the leaking of the transcript by both the BEA and Air France. The BEA later emphasized that the performance of pilots could degrade rapidly under stressful situations leaving them unable to comprehend a warning's meaning and hence rendering them unable to respond appropriately.

III. *Data Protection*

Safety management systems [SMS] refer to a comprehensive systematic approach designed for the management of safety elements in the workplace through, but not inclusive of, organizational structures, accountabilities, policies and procedures. ICAO requirements necessitate States and service providers to be responsible for the establishment of SMS, as they have become essential to the improvement of safety in the aviation industry.

Under the Manual, service providers SMS are required for the identification of safety hazards, safeguarding that remedial actions necessary for the maintenance of an acceptable level of safety is implemented, continuous monitoring and regular assessment of the safety level achieved and constant improvement to the overall level of safety. As clarified by Cristoph Kaupat,

*The target group of SMS is both managerial and operational. At the State Level, the concept of Safety Management is called State Safety Programme (SSP), which sets out the overall safety framework for the national aviation system. At the company level, operational staff in the cockpit, in the hangar, on the apron, and in the control tower are the primary target group of SMS. The idea is to allow them to report incidents and occurrences to the management in a blame-free environment.*¹²⁵

A system as such therefore, does not concentrate on the final cause of an accident, as it aims at brining all errors, leading to the unfortunate consequences, to light for future avoidance. The four key elements of SMS are: (1) safety policy; (2) safety risk management; (3) safety assurance; and (4) safety promotion.¹²⁶ For an SMS to function properly, the fourth element,

¹²⁵ Cristoph Kaupat, "Just culture and the obligation on states to prosecute under the Chicago Convention" (2013) XXXVIII Ann Air & Sp L 461; ICAO, *Safety Management Manual*, ICAO Doc 9859 (2009) at 2-11.

¹²⁶ Safety Policy defines the methods and tools for achieving safety goals, including management accountability for such goals.

safety promotion, is essential. The establishment of a confidential reporting system, which promotes a safety culture in the industry, goes a long way in the establishment, maintenance, and continuance of SMS. Voluntary reporting systems as well as anonymous reporting both are crucial in this sense. The importance of the proper functioning of SMS can be seen through ICAO's newly drafted Annex (Annex 19), which has been the only Annex issued in several decades.

As we have already established so far, accidents are usually a consequence of the amalgamation of various elements and failures (i.e., design, manufacturing, installation, maintenance, operational error, managerial error, administrative error etc.). Most of these failures or errors go unnoticed and unseen pending the inevitable upon the act or omission, which is then determined to be the "probable cause". Human error is an inescapable certainty, particularly in a world of enhanced technology, most of which is multifaceted and not fully yet grasped. Criminalization of human error in such an industry may only take us so far as the apportionment of blame. Instead, we could benefit more readily from a safety culture where a system of reporting would help mitigate the hazards arising from such failures. Some of the technological advancements were, after all, a product of investigation and development of mitigation strategies for the prevention of recurring accidents (i.e., ground proximity warning systems, traffic collision avoidance systems, stall warning systems, global navigation satellite systems etc.). And on these grounds there is a need for the elimination of any and all barriers, which impede or threaten the continuation and evolution of a safety culture as required for the apt operation of SMS. When initially introduced, SMS represented promise of change and enhancement of safety in the industry. Multiple differentiation systems in States around the globe have approached it in different manners, creating loopholes for the protections afforded or undermining the aim and mechanism of the system leading to an era of forced prosecution instead of motivation of cooperation to achieve the one goal which the industry, industry leaders, and international

Safety Risk Management requires a proactive approach to identifying risks, quantitatively and qualitatively categorizing risks, and establishing mitigation for identified risks.

Safety Assurance includes a method for establishing processes to monitor an organization's performance in identifying risks and establishing preventative or corrective actions to maintain safety.

*Safety Promotion involves the establishment of procedures and processes that change the safety culture and environment, including the establishment of confidential reporting systems, to encourage employees reporting and feedback as well as employee training. See US, Transportation Research Board, *Legal Issues Related to Developing Safety Management Systems (SMS) and Safety Risk Management (SMR) at Airports*, (Washington DC: The National Academics, 2013).*

organizations have been campaigning for over the years; enhanced safety. Below, you will find a list of examples.

As, misuse of information gathered for investigation purposes often leads to a reduced willingness of aviation professionals to share information which could be vital for the investigation process as well as the enhancement of safety in the aviation industry, a “safety/just culture” encourages professionals to provide essential safety-related information with a “clear line drawn between acceptable and unacceptable behavior” that could lead to the betterment of aviation safety.¹²⁷ The examination of such schemes in other industries, such as medicine, has indicated that there are important factors important for the maintenance of an environment of trust motivating professionals to willfully come forward with information; reporting mistakes, loopholes, and shortcomings (i.e., indemnity against disciplinary proceedings; confidentiality; separation of the department collecting and analyzing reports from judicial, administrative, and police bodies; and the existence of an easy and accessible reporting system).¹²⁸ The more secrecy and retrieval from reporting there is, the more difficult it is to determine the cause of an accident. The latter is apparent from aviation-related, and non-aviation-related accidents and incidents. A good example is the Olympic Pipeline explosion on 10 June 1999, where a gasoline pipeline operated by Olympic Pipeline Company ruptured and then exploded in Bellingham killing three people in the process.¹²⁹ Following the incident and the investigation, the NTSB chairman declared that the investigators were faced with a lot of difficulties and as witnesses would not cooperate due to the fear of criminal prosecution. The same can be easily asserted in regards aviation accidents. Aviation professionals will end up reassessing their cooperation in voluntary data-sharing programs, or giving testimonies when they are faced with the fear of being criminally prosecuted. Subsequently, in the light of an honest mistake, instead of criminal proceedings being adopted against aviation professionals, the industry as well as the end consumer can benefit more from remedial action through preventative measures.

As discussed earlier, ICAO Annex 13 paragraph 5.10 recommends the cooperation between the technical investigators and the judicial authorities. Nevertheless, the Annex also

¹²⁷ Belgium, EUROCONTROL, *Establishment of ‘Just Culture’ Principles in ATM Safety Data Reporting and Assessment*, (Brussels: EUROCONTROL 2006).

¹²⁸ See *ibid.*

¹²⁹ Bryan Johnson, “Former Olympic Pipe Line Manager Gets 6 Months In Prison”, *KOMOnews* (18 June 2003) online: KOMOnews <<http://www.komonews.com/news/archive/4096111.html>>; Paul Shukovsky, “Criminal Indictments In Deadly Pipeline Explosion”, *Seattle Pi* (13 September 2001) online: Seattle Pi <<http://www.seattlepi.com/local/article/Criminal-indictments-in-deadly-pipeline-explosion-1065760.php>>.

specifies, under paragraph 5 in general and more specifically 5.12, that unless judicial authorities deem that the disclosure of such evidence or data is necessary for the proper administration of justice, records shall not be made available for purposes other than the accident investigation, and hence evidence such as data collected from the CVR or FDR or even testimonies need to be protected. It also acknowledges that where there is suspicion of unlawful acts being the cause of the accident, the investigator in charge must inform security authorities of the States concerned. ICAO's safety information protection task force [SIP TF] after all supports the idea of safety information not being used for disciplinary proceedings, enforcement actions, civil litigation, or criminal prosecution except under circumstances where if otherwise used, would be for the purpose of sustaining or advancing safety. SIP TF insists that the use of safety information should be limited in prosecution to cases with existing evidence of willful misconduct or gross negligence.¹³⁰

In addition, Attachment E to Annex 13 also revolves around the protection of safety information. The Attachment sets out recommendations for Member States in regards the disclosure of information and data collected in the process of an investigation.¹³¹ Attachment E is more specific as to the guidance it offers on the protection of safety information than section 5.12 of the Annex.¹³² It does not only cover investigation records of accident and incident

¹³⁰ Safety Information was defined by the panel at the McGill Conference on International Aviation Liability & Insurance Conference held on 17-18 April 2015 as “data processed, organized or presented to make it useful for the purpose of sharing exchanging or retaining them for safety management.”

Safety Data was also defined as “set of safety values collected from various aviation sources and activities such as: (1) Accident/Incident Investigation; (2) Safety Reporting; (3) Inspections, Audits, Surveys, and Findings; (4) Safety Studies and Reviews.”

Voluntary reporting consists of the “creation of an atmosphere of trust so that both frontline employees and management feel free to come forward to admit mistakes without fear of retribution or reprisal.” Examples of Voluntary Reporting Systems include: ASIAs, FOQA, and ASAP.

Mandatory reporting is “the affirmative reporting system for incidents like failure malfunction and defects – incentive is to require with law.” See Kenneth P Quinn et al, “Protection of Safety Information” (Panel on Protection of Safety Information at the eighth McGill Conference on International Aviation Liability & Insurance, Montreal, Canada, 2015) online: <<https://www.mcgill.ca/iasl/iali2015>>.

¹³¹ See *Chicago Convention*, supra note 7, ann 13, Attachment E [Legal Guidance for the Protection of Information from Safety Data Collection and Processing Systems], s 1.1:

The protection of safety information from inappropriate use is essential to ensure its continued availability, since the use of safety information for other than safety-related purposes may inhibit the future availability of such information, with an adverse effect on safety. This fact was recognized by the 35th Assembly of ICAO, which noted that existing national laws and regulations in many States may not adequately address the manner in which safety information is protected from inappropriate use.

¹³² Quinn Kenneth P, Jennifer E Trock & Timothy Gerheim, “Improving Global Aviation Safety by Protecting Information Sources” (2009) 9 Issues Aviation : & Pol’y 243 at 247; Judith R Nemsick & Sarah Gogal Passeri, *Criminalizing Aviation: Placing Blame Before Safety*, online: American Bar Association online: American Bar

investigations, but it also embodies information gathered through the mandatory and voluntary incident reporting and self-disclosure reporting systems. Unlike section 5.12 though, it is not binding.¹³³ Other than its non-binding effect, like section 5.12 of the Annex, Attachment E acknowledges exceptions to nondisclosure. These exceptions include cases where evidence exists as to intentional conduct, recklessness, gross negligence, or willful misconduct being the cause of the accident, and in instances where it is deemed appropriate by the relevant authority in the interest of justice.¹³⁴ Because of their broad scope, these exceptions are usually used as excuses for the justification of the misuse of information in criminal prosecution.

Association <<http://apps.americanbar.org/litigation/committees/masstorts/articles/winter2012-criminalizing-aviation-blame-safety.html>>; *Chicago Convention*, supra note 7, ann 13, Attachment E, s 2.1:

The sole purpose of protecting safety information from inappropriate use is to ensure its continued availability so that proper and timely prevention actions can be taken and aviation safety improved.

¹³³ See *ibid*; see also *Chicago Convention*, supra note 7, ann 13, Attachment E, s 1.5:

Throughout this Attachment:

- a) *safety information* refers to information contained in SDCPS established for the sole purpose of improving aviation safety, and qualified for protection under specified conditions in accordance with 3.1 below;
- b) *operational personnel* refers to personnel involved in aviation operations who are in a position to report safety information to SDCPS. Such personnel include, but are not limited to, flight crews, air traffic controllers, aeronautical station operators, maintenance technicians, cabin crews, flight dispatchers and apron personnel;
- c) *inappropriate use* refers to the use of safety information for purposes different from the purposes for which it was collected, namely, use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public;
- d) SDCPS refers to processing and reporting systems, databases, schemes for exchange of information, and recorded information and include:
 - 1) records pertaining to accident and incident investigations, as described in Chapter 5;
 - 2) mandatory incident reporting systems, as described in Chapter 8;
 - 3) voluntary incident reporting systems, as described in Chapter 8; and
 - 4) self-disclosure reporting systems, including automatic data capture systems, as described in Annex 6, Part I, Chapter 3, as well as manual data capture systems.

Note. — Information on safety data collection and processing systems can be found in the Safety Management Manual (SMM) (Doc 9859).

¹³⁴ See *Chicago Convention*, supra note 7, ann 13, Attachment E, s 4:

Exceptions to the protection of safety information should only be granted by national laws and regulations when:

- a) *there is evidence that the occurrence was caused by an act considered, in accordance with the law, to be conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or willful misconduct;*
- b) *an appropriate authority considers that circumstances reasonably indicate that the occurrence may have been caused by conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or willful misconduct; or*
- c) *a review by an appropriate authority determines that the release of the safety information is necessary for the proper administration of justice, and that its release outweighs the adverse domestic and international impact such release may have on the future availability of safety information.*

See *Chicago Convention*, supra note 7, ann 13, Attachment E, s 5:

The lack of protection of safety information has been acknowledged as a problem on numerous occasions by industry players, aviation professionals and international organizations; IFALPA for instance has warned that “*information given voluntarily by flight crew members in the course of accident investigations, is presently inadequately protected and may be utilized for subsequent disciplinary, civil, administrative and criminal proceedings in some States.*”¹³⁵ This practice has been evident in cases where the courts justify publicly revealing sensitive information under their States’ “Freedom of Information” legislation.¹³⁶

❖ Practical Illustration of Lack of Proper Data and Personnel Protection

In the UK, the mandatory occurrence reporting scheme under article 142 of the ANO, implementing EU Directive 2003/42/EC states “the sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability”, from experience, the practice seems to suggest otherwise. The ANO also states that reports will be de-identified before distribution unless there is evidence of ‘gross negligence’. Under section 23 of the *Civil Aviation Act*, governing the disclosure of information, information relating to persons which has been provided to the CAA may only be disclosed where: consent to disclosure is given by the person supplying such information; when the CAA deems fit, or the legal person who has given such information cannot be found or ceases to exist or is deceased.¹³⁷ Under the MoU, evidence

5.1 Subject to the principle of protection and exception outlined above, any person seeking disclosure of safety information should justify its release.

5.2 Formal criteria for disclosure of safety information should be established and should include, but not necessarily be limited to, the following:

- a) disclosure of the safety information is necessary to correct conditions that compromise safety and/or to change policies and regulations;
- b) disclosure of the safety information does not inhibit its future availability in order to improve safety;
- c) disclosure of the relevant personal information included in the safety information complies with applicable privacy laws; and
- d) disclosure of the safety information is made in a de-identified, summarized or aggregate form.

¹³⁵ Russell F Kane, “Accident Investigation and the Public Interest: A Pilot’s View” (1989) 38 ZLW 3 at 7.

¹³⁶ See *ibid.*

¹³⁷ UK, *Civil Aviation Act* 1982, s 23:

- (1) Subject to subsection (4) below, no information which relates to a particular person and has been furnished to the CAA in pursuance of any provision of this Act to which this section applies or of an Air Navigation Order shall be disclosed by the CAA, or a member or employee of the CAA unless—
 - (a) the person aforesaid has consented in writing to disclosure of the information; or
 - (b) the CAA, after affording that person an opportunity to make representations about the information and considering any representation then made by that person about it, determines that the information may be disclosed; or
 - (c) that person is an individual who is dead, or is a body corporate that has ceased to exist or, whether an

received from witnesses is taken for granted to be confidential and shall not be disclosed unless it is so required in the interest of the public.¹³⁸ Such decision is left for the relevant courts to decide upon. Yet although the MoU acknowledges that the ability of witnesses to be able to openly disclose information to investigators of aviation accidents is essential for the operation of the investigative authority, in certain cases such as that of *Holey vs. Rogers*,¹³⁹ the accident reports (which usually include data, information, testimonies, and evidence needing protection) are allowed to be admitted into the courts as evidence to establish claims for the purpose of litigation, in part or in entirety, defeating the purpose of the MoU and relevant rules and provisions. The *Freedom of Information Act 2000* surely does not help the cause either as it furthermore provides leeway for the disclosure of information.

In the US, federal law allows for the protection of safety information from disclosure, allowing the FAA to put in place systems and programs, which encourage reporting, and submission of information. Under 49 U.S.C. § 40124, the FAA is forbidden from disclosing information as it acknowledges that such disclosure would impede the voluntary provision of such information. This is even more so encouraged through the provisions of 14 C.F.R. Part 193,

individual or a body corporate, cannot be found after all reasonable inquiries have been made, and the CAA determines that the information may be disclosed; or
 (d) *the CAA determines that the information is of the same kind as other information as respects which it has made a determination in pursuance of paragraph (b) or (c) above.*

¹³⁸ See MoU *supra* note 96:

17. All three AIBs receive evidence from witnesses on the basis that what is said to them is confidential and will not be disclosed unless they are required to do so in the public interest by the relevant court. The specific legislation for each of the AIBs has some differences in detail but all are prohibited from disclosing witness statements or declarations. The ability of witnesses to be able to talk openly to an accident investigator is fundamental to the operation of the AIBs.

18. Confidential statements or declarations made by a witness cannot be disclosed by the AIB to any other party, including the police and the CPS. However, if a witness has provided a written statement or declaration, he or she will usually be given a copy of their statement or declaration and advised that he or she may share their statement or declaration with other investigators if they wish.

19. However, the three AIBs operate on a principle of openly sharing factual technical evidence obtained during an investigation with other agencies involved in investigating the same event, unless precluded from doing so as a matter of law.

¹³⁹ The claimants, on behalf of the deceased who died in an aircraft piloted by the defendant, alleged negligence and sought to rely on the AAIB report to support their claim. The defendant however tried to quash the claim by declaring that the AAIB report was inadmissible. The court nevertheless found that although the report contained statements of both fact and opinion, it was still admissible. On appeal the Court of Appeal upheld the latter decisions made by the court of first instance.

See *Hoyle v Rogers & Anor* [2014] EWCA Civ 257 (13 March 2014) ([2014] 3 WLR 148, [2014] CP Rep 30, [2014] EWCA Civ 257, [2014] 3 All ER 550, [2014] 1 CLC 316) online: <<http://www.bailii.org/ew/cases/EWCA/Civ/2014/257.html>>; “Rogers v Hoyle: Legal Victory for Claimants in UK Aviation Claims” *Stewartslaw* (13 March 2014) online: Stewartslaw <<http://www.stewartslaw.com/rogers-v-hoyle-legal-victory-for-claimants-in-uk-aviation-claims.aspx>>.

which specifies which information the FAA needs to protect and declares the exceptions allowing disclosure. Thus the Aviation Safety Reporting System [ASRS] for example, collects voluntarily submitted aviation safety reports from aviation professionals and uses them to identify system deficiencies and issue alert messages. Even though the information collected by the system is publicly available, reporters are not required to submit their information and thus may remain anonymous. Another example is the Aviation Safety Action Programs [ASAP], under which employees and staff of operators as well as other industry players may disclose information to the FAA on safety related issues.¹⁴⁰ Part 193 also contains exceptions within the framework of which the FAA is *required* to submit or release information that has been submitted voluntarily when the courts issue a subpoena to that effect.¹⁴¹ It is essential though that the violation being reported must not appear to involve an intentional disregard for safety or “criminal activity, substance abuse, controlled substances, alcohol, or intentional falsification”.¹⁴² The former is illustrated in cases such as the Comair Flight 191 runway accident in 2006, where a request for extensive recovery of ASAP information was made following litigation.¹⁴³ The court relied on Part 193 in upholding the order for discovery.

Australia, in its own category, is one of the very few States that considers the protection of safety information of utmost importance. Australian law provides for the admission of recorded data from the flight into court as evidence only in certain circumstances. In order to allow such data to be presented as evidence, the court has to be satisfied that its provision is necessary to determine a material question of fact. Also, the court has to be convinced that determining the material question of fact outweighs the public’s interest as well as the private interests of the crew in the protection of the relevant data. Even if so established, the court is clear on the issue that the information as such will only be used to resolve the question of fact and will not be used for the allocation of liability in court proceedings.¹⁴⁴ The same protection is afforded to reports

¹⁴⁰ See *Code of Federal Regulation* 14 CFR Part 193 (2001), § 9(b)(2-3).

¹⁴¹ See *ibid*, 14 CFR Part 193 (2001), § 193.7(f).

¹⁴² FAA, Aviation Safety Action Program, Advisory Circular 120-66B (2002) [AC 120-66B], §6.

¹⁴³ *In re Air Crash at Lexington, Ky, Aug 27, 2006*, 545 F Supp 2d 618 (ED Ky, 2008).

¹⁴⁴ *Transport Safety Investigation Act 2003* art 54:

A person is not entitled to take any disciplinary action against an employee of the person on the basis of OBR information.

See also *Transport Safety Investigation Act 2003* art 55:

OBR information, and any information or thing obtained as a direct or indirect result of the use of OBR information, is not admissible in evidence in criminal proceedings against a crew member (other than proceedings for an offence against this Act).

of the technical investigations carried out by the ATSB.¹⁴⁵ Power is given to the ATSB mainly to determine whether any information or evidence should be released or disclosed to any person or the public when it sees necessary and fit. If the information comprises of personal material, the ATSB needs to abide by the rules within the *Privacy Act 1988* when making a decision on whether or not such information may or may not be disclosed.

After the introduction of the SMS in Canada, Transport Canada failed to provide proper legal protection of safety information collected through the system. The airlines criticized the system on many occasions, claiming that Transport Canada failed to establish a system for the proper monitoring of the collection of data. Failure to protect information in Canada is clear on many fronts, one of which is related to Canada's Flight Operational Quality Assurance system

See also *Transport Safety Investigation Act 2003* art 56:

- (1) *OBR information is not admissible in evidence in civil proceedings unless:*
 - (a) *the ATSB issues a certificate under section 50 in relation to the OBR information; and*
 - (b) *the court makes a public interest order under subsection (3) of this section in relation to the OBR information.*

Note: See also section 59, which deals with the use of OBR information in coronial inquiries.

- (2) *A party to the proceedings may, at any time before the determination of the proceedings, apply to the court in which the proceedings have been instituted for an order that OBR information be admissible in evidence in the proceedings.*
- (3) *If:*
 - (a) *such an application is made; and*
 - (b) *the ATSB has issued a certificate under section 50 in relation to the OBR information; then:*
 - (c) *the court must examine the OBR information; and*
 - (d) *if the court is satisfied that:*
 - (i) *a material question of fact in the proceedings will not be able to be properly determined from other evidence available to the court; and*
 - (ii) *the OBR information or part of the OBR information, if admitted in evidence in the proceedings, will assist in the proper determination of that material question of fact; and*
 - (iii) *any adverse domestic and international impact that the disclosure of the information might have on any current or future investigations is outweighed by the public interest in the administration of justice;**the court may order that the OBR information, or that part of the OBR information, be admissible in evidence in the proceedings.*
- (4) *This section does not apply to coronial inquiry.*

See also *Transport Safety Investigation Act 2003* art 58:

- (1) *This section applies if OBR information is admitted as evidence under subsection 56(3).*
- (2) *The OBR information is not evidence for the purpose of the determination of the liability in the proceedings of a crew member.*
- (3) *The court may direct that the OBR information or any information obtained from the OBR information, must not:*
 - (a) *be published or communicated to any person; or*
 - (b) *be published or communicated except in such manner, and to such persons, as the court specifies.*

¹⁴⁵ See *Transport Safety Investigation Act 2003* art 27:

- (1) *A report under section 25 is not admissible in evidence in any civil or criminal proceedings .*
- (2) *Subsection (1) does not apply to a coronial inquiry.*
- (3) *A draft report under section 26 is not admissible in evidence in any civil or criminal proceedings.*

[FOQA]. FOQA is a voluntary safety program aimed at the improvement of safety through the use of digital flight recorded data to identify and modify flaws and defects relating to flight operations.¹⁴⁶ Due to its nature, just as SMS, FOQA requires the protection of information gathered for the proper achievement of its goal. However, Transport Canada has refused to protect FOQA data indicating that it would rather rely on “good judgment” in the use of data gathered therein. Such undermining of the concept of data, testimony, and personnel protection is evident in many instances, one of which happens to be a recent case where an Air Canada flight attendant was allowed to use previously confidential data in civil proceedings in an attempt to gain back her job.¹⁴⁷

Under French Law, the police have authority to seize FDR and CVR data and may make them available to the BEA upon request, in contradiction to what Annex 13 stipulates.¹⁴⁸ This is evident in many cases where the technical investigations were hampered due to the police authorities taking over and confiscating evidence in certain instances as portrayed in the above section of this thesis. Further the judicial authority may use the final report as evidence for prosecution as well as in civil proceedings (also portrayed in the case studies above).¹⁴⁹

The same is true concerning the Italian legal system. In Italy, prosecutors confiscated the CVR and FDRs instantaneously following the Tuninter ATR-72 crash on 6 August 2005.¹⁵⁰ Although the technical investigatory team filled for multiple requests for release of the evidence, they were constantly denied access by the authorities. Five Tuninter officials were convicted of manslaughter on 23 March 2009 as a result of the misuse of the confiscated evidence being admitted into proceedings as evidence.

IV. *Synthesis and Analysis*

Because US legal systems focus on compensating victims for instance, the dominating view is that justice is usually served. Equally, other legal systems are not so victim friendly,

¹⁴⁶ See information therein: <https://www.faa.gov/about/initiatives/atos/air_carrier/foqa/>.

¹⁴⁷ Andy Pasztor and Daniel Michaels, “Prosecutions Vex Aviation Industry: Criminal Cases Could Have a Chilling Effect on Voluntary Disclosure of Mistakes” *The Wall Street Journal* (21 March 2011).

¹⁴⁸ Mildred Trögeler, “Criminalisation of Air Accidents and the Creation of a Just Culture” (2011) *Dritto dei Trasporti* 1 at 14.

¹⁴⁹ EUROCONTROL, *Legal and Cultural Issues in relation to ATM Safety Occurrence Reporting in Europe* (Brussels: EUROCONTROL 2006) at 63 in Mildred Trögeler, “Criminalisation of Air Accidents and the Creation of a Just Culture” (2011) *Dritto dei Trasporti* 1 at 26.

¹⁵⁰ Mervyn E Bennun, “The Tuninter ATR 72 Prosecution and Attachment E to Annex 13 of the Chicago Convention” *9 Issues Aviation L & Pol’y* 105 at 110.

which usually leads to outcry by the public followed by media and political pressure to “achieve justice” through placing pressure on the judicial system to pursue criminal proceedings against aviation professionals. In that manner, common law systems are seen to place safety over criminal prosecution.

As has been demonstrated, in most cases of aviation accidents under the jurisdiction of civil law systems, judicial/criminal investigations have taken precedence over technical investigations. Sometimes they are pursued parallel to the technical investigation, leaving them with priority and full control over the crime scene and evidence, hence hampering the technical investigation; on other occasions, they simply are carried out after the technical investigation in the midst of public outcry and political pressure deeming their purpose to be that of the allocation of blame rather than the understanding of the occurrences and enhancing safety. As a result of such criminal investigations, on many occasions, such as those portrayed by the list of cases in the previous section, judicial criminal prosecutions take place against aviation professionals whether or not they were negligent or engaged in willful misconduct. The reports made at the conclusion of technical investigation by the relevant authorities end up being relied on for prosecution of such professionals. In almost all cases though, industry players, Unions, and international organizations have heavily criticized such behavior. This is not to say that common law countries are the only ones on the right path; common law countries tend to strive for the enhancement of safety rather than scapegoating.

Furthermore, although Annex 13 in theory lays down safeguards for the protection of safety information as well as those reporting the aforementioned information, in most scenarios, the applicability of these safeguards within the national laws of Member States falls short. The legal protection afforded in most states tends to be lower than that implied by the Annex. As the Annexes are not part of the Chicago Convention, they are not subject to applicability in the steadiest means a Convention would be. Furthermore the SARPs contained within Annex 13 are not directly applicable and hence require the appropriate measures for their adoption on a domestic scale. Whether a State does comply or not is a completely different question. There is no proper mechanism put in place for the international community or ICAO to oversee such compliance. It is left to the Member States to individually report their inability to comply; yet even then, as history is witness, not many States do abide by this requirement. ICAO’s Audits have helped somewhat with the problem; nonetheless, they still fall short on a grand scale.

Michael Milde described the situation by stating, “*ICAO moves ahead like a fast locomotive happy with its speed but without noticing that many wagons of the train have become unhitched and stay behind.*”¹⁵¹ Lack of protection afforded jeopardizes aviation professionals who voluntarily come forward with such information. As demonstrated above, in some cases, statements voluntarily made and included in the final report were on numerous occasions used for and heavily relied on in criminal investigations and proceedings. Sensitive data including CVR and FDR data were allowed in court, even if the information used from them was taken out of context. In certain cases, such lack of protection led to the refusal of professionals to provide information for fear against prosecution; examples include the Linate and ValuJet cases. When facing fear of self-incrimination it is only natural to assume that professionals would rather withdraw from the voluntary reporting systems all together than end up in jail. In some States, such as the US and the UK, this is even more so under legislative protections such as the 5th Amendment and the *UK Criminal Justice and Public Order Act 1994* respectively.

This lack of persistence and contradiction in legal systems does not contribute to the safety and security of commercial aviation. Neither does it put the minds of the ultimate consumer at rest. There needs to be a unified process and system worldwide where the application of legal rules against professionals in the aviation industry is persistent and can be relied upon. The lack of uniformity in the legal systems’ ways of approaching aviation accidents as well as the process of the investigation, the gathering of evidence and data, and lack of proper protection afforded globally to professionals who voluntarily report information are all gaps in the current system that need to be mended.

¹⁵¹ Michael Milde, “Enforcement of Aviation Safety Standards – Problems of Safety Oversight” (1996) 45 *Zeitschrift für Luft – und Weltraumrecht* 3 at 7 in Mildred Trögeler, “Criminalisation of Air Accidents and the Creation of a Just Culture” (2011) *Dritto dei Trasporti* 1 at 6.

Chapter III

A. Recommendations

The growing trend towards criminal litigation and prosecution of aviation professionals jeopardizes the safety of civil aviation. Although criminal claims may be justified in certain cases, the overuse of the trend has proven to foster fear in aviation professionals and employees from voluntarily sharing information that might be necessary for the enhancement of safety in the industry. The proper functioning of the systems already in place (i.e., the voluntary reporting systems) cannot function with such a huge gap in the industry; the lack of protection afforded to professionals.¹⁵² As noted above, different States have different national laws, ranging from very susceptible ones to more strict ones, to those with an absence of a proper mechanism altogether for the protection of the reporters' identities. Lack of protection afforded to professionals, just as with data collected, evidence gathered, and testimonies given to technical investigations following an aviation incident or catastrophe make it imperative that the world community needs to come together and figure out ways to deal with the disparities existing amongst the diverse legal systems. A unified system would help minimize the counter productivity of the current conflicting ones.

Furthermore, the lack of expertise and experience of the judicial systems make it challenging to strike a balance between the provision of justice to the opposing parties involved in claims or prosecutions. The complexity of aviation cases and the technicalities it encompasses make it difficult for an inexperienced and unskilled legal figure to fully comprehend the

¹⁵² See “Voluntary Occurrence Reporting” online: [http://www.skybrary.aero/index.php/Voluntary Occurrence Reporting](http://www.skybrary.aero/index.php/Voluntary_Occurrence_Reporting);

According to the recommendations in ICAO Annex 13 – Aircraft accidents and incidents investigation, States should establish, in addition to the Mandatory Occurrence Reporting, a voluntary incident reporting system to enable the identification of hazards and unsafe conditions that have not yet caused an incident. Such voluntary reporting should be non-punitive and afford protection of the sources of information. In order to encourage and promote voluntary occurrence reporting States may need to adjust applicable legislative and regulatory frameworks and policies.

See also “Mandatory Occurrence Reporting” online: [http://www.skybrary.aero/index.php/Mandatory Occurrence Reporting](http://www.skybrary.aero/index.php/Mandatory_Occurrence_Reporting);

The provisions in Chapter 8 of ICAO Annex 13 require the States to establish mandatory incident reporting (MOR) systems to facilitate the collection of information on actual or potential safety deficiencies. Further to that, ICAO requirements relating to the implementation of safety management systems (SMS) require that aviation service providers develop and maintain a formal process for effectively collecting, recording, acting on and generating feedback about hazards in operations, based on a combination of reactive, proactive and predictive methods of safety data collection [...] In mandatory reporting systems operational personnel are required to report accidents and certain types of incident. ICAO Annex 13, Appendix C provides a list of examples of serious incidents that are to be reported.

dynamics of all factors involved in an accident, which eventually leads to scapegoating. Scapegoating is a common practice as has been demonstrated in earlier chapters of this thesis, dealing with aviation litigation, under which pilots or ATCOs were charged with counts of manslaughter and/or negligence, but had such judgments eventually overturned due to lack of substantive evidence or a mistake. This practice on occasion has led to the automatic assumption that a professional or group of professionals must have been at fault in the wake of accidents making it imperative on the authorities and the judiciary to find ways to prosecute them. Aviation professionals subsequently end up being incarcerated or blamed at times for situations, which were out of their control due to the public, political, and media pressure demanding accountability.

I. *Need for Further Protection of Data and Aviation Professionals*

Improving or even maintaining safety in the industry of aviation depends on the gathering and analysis of information which at times sheds light on gaps, errors, and mistakes that exist in the system (whether they are managerial or operational ones). Criminal investigations on the other hand, usually followed by criminal litigation of aviation professionals, threaten safety. As Kenneth Quinn pointed out, “criminal cases cast a tremendous black cloud over those who want to participate in voluntary safety-reporting programs.”¹⁵³ He acknowledges that a trend is taking place in this area of aviation and it unfortunately is one of criminal investigations with intentions to follow on with prosecutions. President and CEO of the Flight Safety Foundation [FSF] William R. Voss also brought up the issue on numerous occasions stating:

*The safety of the traveling public is endangered by overzealous prosecutors attempting to criminalize aviation accidents, which can have a chilling effect on cooperation with accident investigators [...] We cannot afford to let the desire by some for vengeance or publicity to come at the expense of safety for all. We need to learn from accidents to prevent them, not criminally punish well-meaning professionals and thereby risk a repeat of tragedy.*¹⁵⁴

¹⁵³ Andy Pasztor and Daniel Michaels, “Prosecutions Vex Aviation Industry: Criminal Cases Could Have Chilling Effect on Voluntary Disclosure of Mistakes” *The Wall Street Journal* (21 March 2011).

¹⁵⁴ Ramon Lopez, “Accident Investigators Sign Criminalization Resolution” *Aviation Today* (22 January 2010) online: Aviation Today <http://www.aviationtoday.com/asw/topstories/Accident-Investigators-Sign-Criminalization-Resolution_65883.html#.VZBv2s6pqkg>.

Apart from Annex 13 to the Chicago Convention, secondary material also exists for the aid in provision of basic protection of data, evidence, and information gathered by reporting systems and technical investigations in the aftermath of an accident (i.e., the Management Safety Manual). In fact, the primary safety management provisions were introduced under Annex 11 and Annex 14, requiring safety management programs for air navigation service providers and airport operators in 2001. Safety management provisions for States only came into existence in 2006 under Annex 6, Annex 11, and Annex 14. This was succeeded by requirements for the implementation of safety management systems in 2009, and in 2010, the ICAO High-Level Safety Conference recommended the development of a new Annex (Annex 19). Adopted in 2013, Annex 19 addresses Safety Management, containing the framework of State Safety Programme [SSP], and the critical elements of a safety oversight system. It also addresses the general and business activities of aviation, and retains the SMS requirements.¹⁵⁵ The proposal to Annex 19 was naturally aimed at the re-enforcement of the role performed by Member States in the management of safety in commercial aviation at the State level.¹⁵⁶ The Annex was thereafter published in 2013 and entered into force by November of the same year. In May 2013, a new edition of the Safety Management Manual was also published for the provision of Member States with more detailed guidance and tools for SSP and SMS implementation.¹⁵⁷ This led to the set-up of Regional Aviation Safety Groups [RASGs] to support the roll out plan of Annex 19.¹⁵⁸ The problem though remained; States were simply “encouraged” to report progress of SSP and SMS implementation through the RASGs. Although almost all existing safety management provisions were combined and brought together under Annex 19, two areas were not so included; provisions relating to safety oversight of air operators, and legal guidance for the protection of information collected for the purpose of investigations under Annex 13.

Despite ICAO’s constant attempts to provide States with resources to aid them in the implementation of SMS regulatory structures, many States lack adequate support and enthusiasm from the legislature for proper implementation. This is a huge issue because provisions under the Manual and Annex 13 are only as effective as national laws of Member States make them out to

¹⁵⁵ ICAO, “Annex 19: Safety Management – 1st edition” (*Integrated Safety Management*, 2013) online: ICAO <<http://www.icao.int/safety/SafetyManagement/Documents/Annex%2019%20-%20ICAO%20presentation%20-%20self%20instruction%2024September2013.pdf>> at 3.

¹⁵⁶ See *ibid* at 4.

¹⁵⁷ ICAO, *Safety Management Manual*, ICAO Doc 9859, 2nd ed (2013) at 32.

¹⁵⁸ See *ibid*.

be. The non-binding nature of these provisions seems to not create enough incentives for States to create a legislative framework adopting the provisions at a higher-than-minimum-required standard. In turn, a poor system is in place not overseeing the appropriate adoption of ICAO provisions, standards and recommended practices, or guidance material. Lack of proper adoption and implementation means lack of proper protection, which in turn means failure of SMS, SSP, and voluntary reporting systems (i.e., ASAP, FOQA). SMS provide a means through which the prediction and prevention of “operational occurrence” is possible.¹⁵⁹ In order for the industry to avoid previous errors or mistakes, knowledge of their existence needs to be made. However, criminal litigation after accidents has the opposing effect, dissuading professionals from reporting mistakes, errors, and incidents.

As the current system does not offer proper protection of data, evidence, information, testimonies, or even the identities of reporting aviation professionals, it is necessary that the legislature in Member States grasp the need for the development of such statutory protection in both civil and criminal aviation litigation. The legislative framework of Member States needs to evolve to meet the needs of SMS. As the FSF recommended during the International Air Safety Seminar in 2008, a system could be set up through which limited discovery of voluntary self-disclosed information could be allowed in cases where court proceedings are missing an important question of fact, which may only be answered through the disclosure of the relevant information, as otherwise it would prejudice the right of the requesting party of a fair trial. If permitted, such limited discovery would be made under a “protective order” and will not be made available to the general public. Safety information being currently collected by SMS in different States can be used in a productive manner to learn about and tackle threats to safety in aviation instead of fostering fear in the industry and igniting the need for self-preservation. The lack of protection of information results in a downsize of the reporting culture which eventually leads to counterproductive results defeating the purpose of SMS; lack of knowledge and awareness of pressing issues affecting safety of aviation. The purpose of programs such as the ASAP and FOQA is to achieve confidentiality for participants and volunteers coming forward with important information to begin with and in their current form with lack of a legislative framework in place to aid their proper implementation, these programs are rendered inefficient

¹⁵⁹ See *supra* note 124 Kaupat; ICAO, *Safety Management Manual*, ICAO Doc 9859, 2nd ed (2009) [*Safety Management Manual*], s 2.2.2.

and useless in some States more than others. This has been evidenced on numerous occasions. An example is the aftermath of Ansett New Zealand de Havilland Dash 8 crash, which suggests that professionals easily turn away from voluntary reporting when threatened by the fear of prosecution due to lack of statutory protection of their identity or any voluntary information they volunteer. Subsequent to the latter accident, the CVR was used for the criminal prosecution of pilots of manslaughter. As a result, numerous pilots started disabling CVRs on board fearing that recordings will be used against them in court proceedings.¹⁶⁰

Lack of protection of aviation professionals also is highly dependent on each State's rules and regulations in relation to the freedom of information as well as the right to privacy. The legislative framework that exists at the moment is different from one State to the other in the same manner the legislative framework of data protection is also different. This discerning applicability of reporting systems and lack of legislative backbones in place leaves aviation professionals at risk of prosecution following each and every incident due to the lack of anonymity. In most cases when such evidence is brought to light, rendering the identity person behind its provision public, it leads to placing such professionals at risk at times (i.e., the fatal stabbing of an air traffic controller following the Uberlingen crash by a father of a victim).¹⁶¹

In this context, ICAO needs to press the issue and allocate more weight on Annex 13 and any guidance material offered to Member States as well as remind States of the deep rooted need for their willingness to alter or supplement their legislative provisions to safeguard information, data, evidence, and identities of reporters. States need to play a more proactive role in insuring such information is not misused by authorities, and is shielded from the public and the media, as otherwise the safety culture that the global community has been working so hard to create and maintain will crumble and safety in the aviation industry will be minimized and threatened. A

¹⁶⁰ See *supra* note 124 Kaupat; also see Sidney Dekker: *Just Culture: Balancing Safety and Accountability* (Burlington, VT: Ashgate, 2007) at 91: Dekker notes, that practitioners often despair at the lack of opportunity to really influence their workplace and its preconditions for the better.

¹⁶¹ In the US for instance, Federal law provides protection of safety information from disclosure. 49 USC § 40123 does not allow the FAA from disclosing information voluntarily provided. Part 193 however lays down conditions under which such information may be disclosed. These conditions are general in nature, which are met if a subpoena is issued to that effect as in the aftermath of the Comair Flight 191.

In Australia, cockpit recordings made in flight may not be used in court for prosecution purposes or for any disciplinary actions. However in civil cases, such recordings may be admitted under certain circumstances such as the need to find answers to a material question of fact.

In France, the law allows such recordings to be used for prosecution reasons.

unified system under an appendix to the Chicago Convention with higher requirements and standards could prove more effective than the current system in entirety.

II. *Need for an International Tribunal*

National courts of the different and numerous Member States lack the expertise, experience in certain cases, and knowledge needed for the proper comprehension of the complexities and technicalities in aviation due to the specialized nature of this area of law and the industry in general. A question hence arises; would the establishment of an alternative specialized body or tribunal better serve justice, having common rules and procedures specific to dealing with criminal proceedings in aviation, or is the current system sufficiently effective and efficient?¹⁶²

Often, terms used in reports of technical investigations might have their own specific meaning that is different than the legal generic meaning allocated to them by judiciary from caseload outside the aviation industry. Terms such as probable cause or proximate cause for example, as well as “contributory factors” have created problems when reports have been admitted into case proceedings, and they were allocated more stringent and strict meanings than they were supposed to mean by the investigators drafting the report. The judiciary seems to rely greatly on these terms for the commencement and the basis of legal actions. This has been illustrated on numerous occasions, such as the Olympic Airlines Falcon 900 B accident in 1999 and the Yak-42 accident in Greece in 1997.¹⁶³ In such instances, where the “probable” or “approximate” cause of an accident is identified in a report, it ends up being construed by the judiciary as evidence that “*some person or persons*” are strictly responsible for an accident either through acts or omissions.¹⁶⁴

Events have often illustrated that complications arise at all times due to issues of the sort because of the public, media, and political pressures involved in the aftermath of accidents. This leads to a “witch-hunt” rather than a need to find the root of the problem for safety reasons. Having that in mind, as well as the fact that provisions establishing criminal liability in aviation litigation are laid down by domestic legislation of each Member State, thus differing from one State to another, means that the judiciary may easily be swayed by external pressures and develop or give meaning to provisions in a subjective rather than objective manner.

¹⁶² See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 5

¹⁶³ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 42

¹⁶⁴ See Michaelides-Mateou & Mateo (2002), *supra* note 32 at 41.

Furthermore, the Joint Resolution which was issued in 2006 by the Flight Safety Foundation, the Civil Air Navigation Services Organization, the Royal Aeronautical Society in the UK and the Academie Nationale de l’Air et de l’Espace on the “criminalization of aircraft accidents” and the “growing trend to criminalize acts and omissions of parties involved in aviation accidents and incidents” strongly suggested that “information given voluntarily” by professionals or employees during the course of a technical investigation is essential and valuable.¹⁶⁵ They reiterated that such information, *“if used by criminal investigators or prosecutors for the purpose of assessing guilt and punishment, could discourage persons from providing accident information [...] adversely affecting flight safety”*.¹⁶⁶ As noted above, it is important to emphasize that due to the fact that if sensitive information is used in courts for the prosecution of aviation professionals could discourage professionals from voluntarily providing important information which could help enhance safety, and due to the fact that in certain cases there is a need for the provision of sensitive information into court proceedings for the proper understanding of an important question of fact, it might be impossible to avoid the admittance of such sensitive information or data collected. If a tribunal was to exist, with specialized and educated judges considering such evidence, prejudice against sensitive information might not exist, thus fostering trust and faith in the system by the reporting community. It could simply eradicate the problems the industry is facing at the moment.

These growing and pressing issues often lead to long and expensive trials, reversed sentences, reduced sentences on appeal, increased sentences in certain cases (e.g., the 1988 crash at Habsheim in France), even scapegoating. This is usually and commonly due to the lack of expertise and education of the judiciary in the field. As there are inconsistencies in the various judicial systems, for the legal and aviation community to exist in harmony, and for the global community to strike a balance between holding aviation professionals accountable on a reasonable standard and achieve justice for all parties involved in an aviation law suit, especially

¹⁶⁵ See Flight Safety Foundation, “Joint Resolution Regarding Criminalization of Aviation Accidents” (17 October 2006) online: http://flightsafety.org/files/resolution_01-12-10.pdf; also see The Journal of Flight Safety Foundation, AeroSafety World, (December 2009 – January 2010) at 9; Although the Resolution was originally developed by the Flight Safety Foundation, the Civil Air Navigation Services Organization, the Royal Aeronautical Society and the Acedemie National de l’Air et de l’Espace, it was successively signed by the European Regions Airline Association, the Professional Aviation Maintenance Association and the International Federation of Air Traffic Controllers Association. In 2010, also the International Society of Air Safety Investigators added their signature to it.

¹⁶⁶ See *ibid.*

that of a criminal nature, the judicial system dealing with such cases needs to be educated and trained in the field. Educating and training at least one court and a number of judges in every State is not only costly and time consuming, it will not assure the existence of a unified and harmonized system or set of procedure. Under the creation of an international court to adjudicate such issues, Annex 13, and all guidance material, will exclusively be applied and given one single interpretation for the purpose of all criminal aviation proceedings under the auspices of one international body who ICAO could oversee its functions. This will close all the gaps in the already existing system and could lead to proper protection of sensitive data and information as well as professionals who voluntarily come forward with information in cases where no intent, gross negligence or gross recklessness exists.

A good example of such a system is the educational program developed by Brazil's CENIPA.¹⁶⁷ Under this system, judges and prosecutors are educated of the risks of unfettered disclosure of safety information and they develop a deeper understanding of the industry, its practices, international agreements governing it, and the Annexes.¹⁶⁸ According to a paper presented by CENIPA to ICAO Regional Aviation Safety group, the system has been successful and has had positive responses.¹⁶⁹ If such a system were to exist on a grand, international level, a unified system would eventually come into place, and the formation of a specialized UN tribunal through ICAO could be set up for a more efficient and effective judicial review of criminal aviation cases. As asserted by Francis Schubert during the Royal Aeronautical Society Conference in London on 28 April 2010, *"The ultimate objective of a just culture, is to ensure that 'only those very rare occurrences that meet the definition of a criminal offence are treated by the judicial system.'"*¹⁷⁰ Thus, as he strongly suggests, judicial staff hearing aviation cases *"should be trained in the practical, operational and technical aspects of transport."*¹⁷¹

B. Conclusion

¹⁶⁷ IATA, "Safety: The Blame Game" *Airlines International* (1 June 2012) online: Airlines International <<http://airlines.iata.org/analysis/safety-the-blame-game>>.

¹⁶⁸ See *ibid.*

¹⁶⁹ See *ibid.*

¹⁷⁰ David Learmount, "Criminalisation of Air Accidents: the Solutions May be Forged in Europe" *Flightglobal* (18 May 2010) online: Flightglobal <<http://www.flightglobal.com/news/articles/criminalisation-of-air-accidents-the-solutions-may-be-forged-in-341935/>>.

¹⁷¹ See *ibid.*

Aviation accidents, although rare, are usually catastrophic in nature, usually fatal for those involved, and attract considerable political and social attention. Pressure rises in the aftermath of an accident, usually leading for a demand of criminal prosecution of aviation professionals and all major industry players. Such criminal proceedings are generally costly, lengthy and complicated due to the technical and specialized nature of the industry. They often demand the release of sensitive information and data collected by the technical investigation subsequent to the accident, which at times leads to the disclosure of testimonies, the accident report, even flight recorded data into proceedings to answer question of facts or because of the societal and political pressure to have them admitted. Due to the sensitive nature of this information and its complexity, courts at times allocate a lot of weight and emphasis on parts of it, more than others, to justify the basis of legal claims and allocate blame and liability. This could lead to the revelation of the identities of aviation professionals who participated in voluntary reporting, concentrating the spotlight on these individuals, making them victims of criminal prosecutions and sometimes scapegoating.

Although there is a need for justice to be served, and aviation professionals should not be above the law, there needs to be a balanced approach in dealing with criminal litigation in aviation. This lack of protection of data, information, identities, and the growing trend in prosecution have time after time destroyed the “just” and “safe” cultures that the global aviation community has worked so hard to build. It has often led aviation professionals and employees to retract from voluntary reporting due to a fostered fear of prosecution, which in turn poses a threat to the maintenance and growth of safety in the industry. It is important to realize that operational and managerial failures and errors will occur in aviation despite the numerous efforts to prevent them. Often, there are multiple errors and failures of a system occurring before an accident takes place. Reason best explained such concept through his “Swiss Cheese” model, through which he illustrated that no one error leads to a catastrophe or a failure. The alignment of a course of events or lack of is what leads to a complete infiltration of the system, which in turn brings about the failure or error, in our case, an aviation accident. It is certain that the aviation industry should not be immune from criminal prosecution; even so, this does not mean that a trend in criminal prosecution should be allowed.

A review of cases provided for in Chapter II of this paper, illustrates how many a times have aviation professionals been wrongly accused, convicted, had their licenses revoked, only to

lead to appeals, and in many cases reversal of court decisions, or abandonment of claims. In some cases unfortunately there were increased sentences on appeals even though it was clear that the professionals or employees were not solely at fault, or the situation was out of their own control. With this being said, it is worth noting that criminal prosecutions should only be reserved for cases under which a criminal element exists (i.e., negligence, intent, recklessness, and willful misconduct). The lack of global unity on this issue causes confusion and uncertainty in the industry. Different legal systems tend to have different national rules and regulations concerning the protection of data and individuals. Also, different States have approached aviation accidents in different manners; some give primacy to technical investigations, others give supremacy to criminal investigations, and some allow for the proper cooperation between the two. Furthermore, the judiciary of the different Member States are not adequately educated and do not usually have the expertise to understand the complexities arising from an aviation litigation, leading to bad judgments, lengthy proceedings, and outcry from the communities.

The need for a unified system to deal with aviation accidents and aviation litigation is an important growing matter touching on the safety of the industry. Although, as mentioned in Chapter I, proponents of criminal prosecutions support the growing trend of criminal litigation for purposes of achieving justice, the opposition raises valid points to why this trend is a threat to the industry. A well-balanced approach needs to be adopted through the establishment of a unified system under which the adoption of provisions and the education of the legislature of each Member State can be achieved. The protection of data and professionals is essential to the continuance of safety enhancement and hence, should be taken seriously. Further, as education of judiciary of each State can prove difficult, lengthy, expensive and too complicated, the establishment of an international UN tribunal by ICAO could resolve many of the current problems the global community is facing. Such a tribunal would consist of judges trained and educated in the field, to avoid confusion and misunderstandings during court proceedings. It would allow for a fair trial to all parties involved, and it would be unbiased by political, societal, or media pressure. Judges sitting in would have experts at demand walking them through the complexities arising in litigation, digressing from scapegoating, allowing for the effective and efficient process of justice to take place. This would also allow for enhancing the protection of sensitive data, information, and identities, as through a closed court, such sensitive information will not be available to the public, and will be used for the sole purposes of resolving questions

of fact that would be unanswered otherwise as provided for under ICAO's Annexes and guidance material.

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