Criminal liability of pilots in aviation accident cases

Choi, J.

3 The international air law dimension

3.1 Scope of the chapter

This chapter is dedicated to core provisions of the international air law regime, in part, in conjunction with national criminal law, regulating the criminal liability of pilots. Chapter 2 defined the legal dimension of the safety paradigm, which plays a prominent role in the special domain of criminal air law and the foreseeability of the legal framework for pilots. The international air law framework regulates the conduct of the pilot and all other elements that can influence the conduct of the pilot and therewith, criminal liability, if they are implemented. As such, this body of law provides detailed prescripts, mainly with respect to the objective aspects of pilot behaviour in operating aircraft.

This Chapter deals with the international air law regime, including the pre-Chicago regime.[1] However, it mainly explores the Chicago Convention (1944), SARPs, and other instruments already identified as sources of air law in Chapter 1. These legal instruments contain norms that pilots can violate and, as such, influence potential criminal liability.

Section 3.2 of this chapter concerns the pre-Chicago Convention regime, especially Article 30 of the draft Paris Convention (1910) and Article 25 and the Annexes of the Paris Convention (1919). It shares the historical development in the written regulatory context when the safety paradigm was named the 'technical era' early on.[2] This regime is relevant as it remains the basis of the Chicago Convention (1944). Section 3.2, therewith, lays a foundation for the interpretation of the current Chicago regime, including Article 12 of the Chicago Convention (1944), which represents the most current criminal air law framework pertaining to pilots.

Section 3.3 focuses on the analysis of Article 12 of the Chicago Convention (1944), the relevance of which as a basis for the criminal liability of pilots lies in its textual reference to 'prosecution.' This term is also specified in SARPs, which are explored in Section 3.4. Article 26 of the Chicago Convention (1944), concerning the investigation of aviation incidents and accidents occurring in international civil aviation, is also the subject of discussion in

1 Section 1.5.1 of this research.
2 Section 2.2 of this research.

Section 3.3 because of its impact on trends in international civil aviation with respect to the criminal liability of pilots, as also follow from SARPs in ICAO Annex 13.

Section 3.4 refers to the SARPs in ICAO Annexes 1, 2, 6, 11, 13, and 19, which Chapter 1 and Section 3.3 of this research identify as global safety regulations relevant to pilots (in)actions. These Annexes elaborate on the criminal liability of pilots under Article 12 of the Chicago Convention (1944) both directly and, more so, indirectly.[3]

International *security* conventions are also referred to, with special reference to the Convention on Offences and Certain Acts Committed on Board Aircraft,[4] hereafter referred to as the 'Tokyo Convention (1963)', as amended by the Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft, hereafter referred to as the 'Montreal Protocol (2014)'.[5] These sources are pertinent because they regulate the authority and responsibility of pilots during the operation of the aircraft in the event of an external offence against aviation safety.

Moreover, other security conventions, including the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation,[6] henceforth referred to as the 'Montreal Sabotage Convention (1971)', also provide valuable insights regarding the notion of 'prosecution', pertaining again to the pilot's responsibilities with respect to external acts jeopardising the safety of international civil aviation. This notion of 'prosecution' is useful when interpreting Article 12 of the Chicago Convention (1944).

The Conclusion of this Chapter contains a summary of findings with respect to the basis for criminal liability of pilots within the international air law framework.

3 These Annexes contain specifications regarding the licensing of the pilots, rules of the air, operation of the aircraft, interaction between pilots and other personnel in aviation, and accident investigations. Safety management obligation under Annex 19 sets the global scheme for promoting safety for the above-mentioned Annexes under the auspices of ICAO.

4 ICAO, *Convention on Offences and Certain Acts Committed on Board Aircraft*, 14 September 1963 (Tokyo Convention) (ICAO Doc 8364).

5 *Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft* (Montreal Protocol, 2014).

6 ICAO, *Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation*, 23 September 1971, 974 UNTS 177

3.2 Pre-Chicago regime

3.2.1 Draft Paris Convention (1910)

3.2.1.1 Article 30 of the draft Paris Convention of 1910

In the draft Paris Convention of 1910, Article 30 was designed to regulate the criminal liability of pilots. The draft provision reads that:

> *"Each State undertakes to enact that all aircraft within the limits of, or above, its territory, and all its own aircraft within the limits of, or above, the territory of another contracting State shall comply with the "Rules relating to Aerial Traffic" annexed to the present Convention (Annex C) and to punish those which fail to do so."*[7]

This provision is the first attempt to regulate criminal liability recorded in an international treaty framework.[8] The following subsections focus on its applicability to pilots.

3.2.1.2 Annex C of the draft Paris Convention of 1910

According to Article 30 of the draft Convention, the "rules relating to aerial traffic" annexed to the draft Paris Convention of 1910 standardise compliance therewith. As one of the three Annexes existing under the draft Paris Convention (1910),[9] Annex C contains conditions for lights, signals, and manoeuvring of aircraft, amongst others. Chapter III of Annex C, on the manoeuvring of aircraft, specifically prescribes pilots' behaviours, both in terms of how to act and not to act. Annex C is comparable to the Rules of the Air referred to in Article 12 of the Chicago Convention (1944), which Sections 3.3.1 and 3.4.1 of this research further elucidate.

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7 Article 30 of the Draft Paris Convention of 1910: "*Chaque Etat s'engage à prescrire l'observation, par tous les aéronefs dans les limites ou au-dessus de son territoire et par ses aéronefs dans les limites ou au-dessus du territoire d'un autre Etat contractant, des règles contenues dans le Règlement de la circulation aérienne annexé à la présente Convention (annexe C) et à en punir l'inobservation.*" Translation by Prof. Cooper, former Director of McGill's Institute of Air and Space Law. *See* Cooper JC, 'The International Air Navigation Conference, Paris 1910' (1952) 19(2) Journal of Air Law and Commerce 127.

8 Indeed, the draft Paris Convention of 1910 was the first international endeavour to regulate international civil aviation before the Second World War. *See*, Cooper JC, 'The International Air Navigation Conference, Paris 1910' (1952) 19(2) Journal of Air Law and Commerce 127, 127 and 130.

9 Sand PH, De Sousa Freitas J and Pratt GN, 'A Historical Survey of International Air Law Before the Second World War' (1960) 7(1) McGill Law Journal 24, 30: "When the conference adjourned, it had completed a draft convention of 55 articles and 3 annexes, including such subjects as aircraft nationality, registration, rules of the road and photographic and radio equipment in aircraft."

Annex C is unambiguous regarding its explicit rules, reflecting the understanding of safety at the time. The binding nature of Annex C establishes a strict obligation to comply, akin to that of a multilateral treaty, with the aim of safeguarding the general public. The editorial committee that drafted the 1910 Paris Convention confirmed this interpretation by stating that the 'rules relating to aerial traffic' annexed to the Convention possess an absolute character, as expressed in Article 30, and "must be observed everywhere… in the interest of the general public."[10] This wording affirms that deviations from the air navigation rules in Annex C are not permitted and that non-compliance necessitates mandatory enforcement.

However, while the obligation to ensure compliance is stringent, it remains less clear whether the strict duty to prosecute and punish extends beyond explicitly defined rules to cover other behaviours not directly tied to safety concerns, as they were understood at the time. In this regard, the scope of the obligation may encompass diffuse duties, which go beyond explicit requirements, in order to protect third parties on the ground.[11] Section 3.2.1.4 on sanctions revisits the issue of whether the duty to prosecute extends to other behaviours.

3.2.1.3 Aircraft to be in compliance with Annex C

Article 30 of the Draft Paris Convention (1910) provides that aircraft should be in compliance with Annex C.[12] Since pilots operate the aircraft, it might be inferred that pilots, in actual fact, must comply with Annex C.

Against the assumption, Annex C could not apply directly to pilots, as the treaty terms only apply to States upon their consent to be bound, but not to individuals. Therefore, for States to comply with Annex C, States had to take additional steps to domestically enforce compliance over the relevant airspace,[13] including by rendering them applicable to pilots and even airlines that manage pilots.

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10 *1910 PC, Conférence Internationale de Navigation Aérienne, Procès-Verbaux des Séances et Annexes*, Paris (18 May–29 June 1910) 174. *See also* Sections 1.4.1 and 1.5.1.2 of this research on the term 'binding force' and the current binding force of the pre-Chicago Convention regime.

11 Section 1.7.1.2 of this research.

12 Section 3.2.1.2 of this research.

13 Cooper JC, 'The International Air Navigation Conference, Paris 1910' (1952) 19(2) Journal of Air Law and Commerce 127, 133: "States to require observance by all aircraft within or above its territory of the air navigation rules set out in the annex to the convention – a commitment as to the exercise of police power which no State could assume unless the flight-space above its lands and waters were a part of its territory." While Prof. Cooper did not explicitly mention, he probably meant that it is the territorial sovereign power of a State to exercise what he calls the "police power" to observe compliance. However, I interpret this as "autonomy" where States or an autonomous governments exercise their enforcement and adjudicative jurisdiction in the scope of this study. *See* Section 1.4.3 of this research.

3.2.1.4 Sanctions

As said, pursuant to Article 30 of the draft Convention of 1910, States were also required to punish non-compliance with Annex C.[14] The role of punishment for non-compliance seems intended as the protective mechanism of safety through retribution. The drafters mention that whether non-compliance leads to an accident or incident is not a condition for punishment since "prevention is better than repair" and "nothing would be more dangerous than the thought that one can disregard the regulations without punishment if one is lucky enough to avoid accidents."[15] The drafters add, "if the regulation is made well, it is in the general interest that one gets used to observing them."[16]

The ambiguity referred to in Section 3.2.1.2 of this research appears with respect to the term '*punishment*.' Prof. Cooper indicates that the term involves the power of the government to control citizens, which can be closely related to criminal prosecution. However, this interpretation does not mean that the use of the term 'punishment' refers only to 'true' criminal law enforcement. It is also possible that the reference should be understood as allowing for other types of enforcement than criminal prosecution, liability, and punishment. However, there is no clear source supporting this argument, nor is there evidence to the contrary. Likewise, no clear sources indicate that only criminal action would suffice.

In any event, if the term punishment did refer to criminal justice action and liability, that duty related to pilots' behaviours, as already determined in Section 3.2.1.2. Given that pilots operate the aircraft that are subject to Annex C,[17] Article 30 of the draft Paris Convention infers that pilots who navigate an aircraft in a manner that contravenes the prescribed standards laid down in Annex C would be subject to criminal law enforcement and sanctions.

3.2.2 Paris Convention (1919)

3.2.2.1 Article 25 of the Paris Convention (1919)

The Paris Convention (1919) articulates the following provision of Article 25:[18]

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14 Section 3.2.1.1 of this research.

15 *1910 PC, Conférence Internationale de Navigation Aérienne, Procès-Verbaux des Séances et Annexes*, Paris (18 Mai–29 Juin 1910) (1910) 174: «Mieux vaut prévenir que réparer. Rien ne serait plus dangereux que la pensée (jue l'on peut impunément se moquer des règlements si on a la chance d'éviter les accidents. Si le règlement est bien fait, il est d'un intérêt général qu'on s'habitue à l'observer.»

16 *1910 PC, Conférence Internationale de Navigation Aérienne, Procès-Verbaux des Séances et Annexes*, Paris (18 Mai–29 Juin 1910) (1910) 174.

17 *See* Section 3.2.1.3 of this research.

18 Paris Convention (1919), art 25.

> "*Each contracting State undertakes to adopt measures to ensure that every aircraft flying above the limits of its territory and that every aircraft wherever it may be, carrying its nationality mark, shall comply with the regulations contained in Annex D. Each of the contracting States undertakes to ensure the prosecution and punishment of all persons contravening these regulations.*"

This provision reiterates draft Article 30 of the draft Paris Convention in 1910, now, however, embodied in a binding treaty.[19]

Article 25 of the Paris Convention (1919) imposed two obligations on Contracting States. These obligations are to adopt measures to ensure compliance and prosecution and punishment.[20]

Compared to the draft Paris Convention of 1910, the first category of aircraft did not change. Hence, the duty to comply with safety standards came to apply to *any* aircraft flying in the national airspace. However, the description of the second group of aircraft mentioned in the provision was altered, namely to any aircraft flying under a State's nationality mark, regardless of its location. This formulation was incorporated in the redrafted provision in order to fill in a loophole identified in the draft Paris Convention of 1910.[21] With this broader scope, the Paris Convention (1919) sought to promote safety and standardisation in aviation practices, regardless of geographical boundaries, emphasising the importance of the safety paradigm worldwide.

3.2.2.2 Annex D of the Paris Convention (1919) and compliance therewith

Article 25 refers to Annex D of the Paris Convention (1919) as the locale of rules with which compliance must be ensured.[22] In terms of number of stan-

19 *See* Sand PH, De Sousa Freitas J and Pratt GN, 'A Historical Survey of International Air Law Before the Second World War' (1960) 7(1) McGill Law Journal 24, 30. "The conference agreed on the following principles which were to reappear in the Paris Convention of 1919." *See also* Section 1.5.1.2 of this research.

20 These two obligations under Article 25 of the Paris Convention (1919) are somewhat similar but more elaborated than the draft Paris Convention of 1910. For the discussion on the obligations of Article 30 of the draft Paris Convention of 1910, *see* Section 3.2.1.of this research.

21 Article 30 of the draft of 1910 did not cover aircraft flying over non-Contracting States. *See* Section 3.2.1.3 of this research.

22 Section 3.2.2.3 of this research below. The text clarifies what Annex D contains by stating "rules as to lights and signals, rules for air traffic," which can be understood as "rules as to lights and signals, rules of the air." *See* Articles 4 and 15, which refer to Annex D, next to Article 25 of the Paris Convention (1919). *See also* 'Convention for the Regulation of Aerial Navigation' (1923) 17(4) The American Journal of International Law 195, 195 and Note 1. ICAO, 'The Postal History of ICAO – The 1919 Paris Convention: The Starting Point for the Regulation of Air Navigation' <https://applications.icao.int/postalhistory/1919_the_paris_convention.htm> accessed 13 October 2024.

dards (51),[23] this Annex is comparable to Annex C in the draft Convention (1910). Annex D also includes the power to modify and complete the Annex.

Having served as the Secretary General of the International Commission for Air Navigation (ICAN), Dr Roper acknowledges that the Paris Convention (1919) and its Annexes faced significant criticism.[24] One of the key points of contention was the limited representation of all States in the decision-making process. Consequently, their autonomy to regulate their domestic matters, such as criminal liability, would be restricted by their obligation under Annex D.[25]

States were supposed to comply with Annex D of the Paris Convention (1919), which contained two standards that had implications for the criminal liability of pilots.[26] These two standards postulated that nothing in Annex D could release the aircraft, owner, pilot, and crew from the consequences of non-compliance with Annex D, that is, escaping from their duties to comply with Annex D.

Article 25 of the Paris Convention (1919) does not provide for compliance measures. However, Bouvé believes that the intent was that criminal measures would be provided under local law, while no attempt was made to reach an agreement to unify these standards.[27]

3.2.2.3 Prosecution and sanctions

Article 25 of the Paris Convention (1919) also requires the prosecution and punishment of "all persons contravening these regulations," referring to Annex D, which is as binding as a multilateral treaty, which is developed by the League of Nations.

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23 Annex D of the Paris Convention (1919) lists "rules" that the groups of aircraft defined in Section 3.3.2.3 of this research shall comply with. Instead, I take the term "standard" as that, to me, is closer to what Annex D of the Paris Convention (1919) intended to mean based on the authors of the draft Paris Convention (1910) as Section 3.2.1.4 of this study discusses. However, The "standards" referred to in this Chapter are not the same as "Standards" in the context of the Chicago Convention (1944). For Standards relevant to this study, *see* Section 3.4.

24 Roper A, 'The Organization and Program of the International Commission for Air Navigation (C.I.N.A.)' (1932) 3 Journal of Air Law and Commerce 167, 168.

25 It primarily involved the League of Nations only, rather than the comprehensive participation of States. Therefore, States like the US did not ratify the Paris Convention (1919). *See* Latchford S, 'The Bearing of International Air Navigation Conventions on the Use of Outer Space' (1959) 53(2) The American Journal of International Law 405, 406. For participation of the U.S. government in drafting the Paris Convention (1919), *see* Cooper JC, 'United States Participation in Drafting Paris Convention 1919' (1951) 18 Journal of Air Law and Commerce 266.

26 *See* Section VI of Annex D of the Paris Convention (1919).

27 Bouvé CL, 'Regulation of International Air Navigation under the Paris Convention' (1935) 6(3) Journal of Air Law and Commerce 299, 315.

Commentators consider that prosecution and punishment based on the Paris Convention (1919) would mean delegation of jurisdiction, including the power to prosecute these persons on the basis of the rules of ICAN, that is, Annex D, as to criminalisation,[28] that was "under the direction of League of Nations."[29] However, Bouvé rightly points out that "[n]o form of the police power of the State in the sense of authority to administer or enforce such power is vested in the International Commission of Air Navigation under the Paris Convention," that the punishment based on the "action of individuals" requires domestic legislation, and that Annex D is only a technical regulation.[30] Hence, "the duty to control has neither enlarged nor diminished."[31] Thus, ICAN's power to modify and complete Annex D brings with it the power to influence domestic criminal legislation but not the direct power to prosecute pilots.

This discussion clarifies two points. *Firstly*, prosecution and punishment under Article 25 are specifically related to criminal law enforcement and punishment. *Secondly*, prosecution and punishment should be based on national legislation, but that legislation was to be made operational on the basis of Annex D. The legal force of Annex D, and the jurisdiction of ICAN, which was connected to the League of Nations in relation to its substantive content was why the US never ratified the Paris Convention (1919).[32] Possibly, the US did not want to expose their pilots to rules they may not have agreed with.

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28 For the definition of "jurisdiction", please *see* Section 1.4.2. For ICAN, *see* Section 3.2.2.2. above. *See also* Cooper JC, 'The International Air Navigation Conference, Paris 1910' 19(2) Journal of Air Law and Commerce 127, 133. In this specific case, both jurisfaction would remain in ICAN, whereas jurisaction would still be embedded in the State as part of the "police power". Whether this "police power" includes the power to technically or judicially investigate is unclear.

29 ICAO, 'The Postal History of ICAO – International Aviation Organizations Working Alongside ICAN and Dealing Exclusively with Aeronautical Matters' <https://applications.icao.int/postalhistory/international_aviation_organizations_working_alongside_ican_part_1.htm> accessed 13 October 2024. However, the source claims that the "League of Nations never attempted to exercise any authority on the ICAN."

30 Section 3.2.1.4 of this research; Bouvé CL, 'Regulation of International Air Navigation under the Paris Convention' (1935) 6(3) Journal of Air Law and Commerce 299, especially in 315: "… *[N]o individual engaged in international flight in the United States could be "prosecuted" or "punished" for contravening such Annexes and their amendments unless such contravention had, by the domestic law, been made an offense subject to prosecution and punishment. The offense would in such case be an offense against a law of the United States regulating international air flight in the territory of the United States-i.e., an act violative of a law passed by the United States whether viewed as an Act passed by Congress in the exercise of its Federal police powers, in the exercise of its Constitutional power to regulate interstate and foreign commerce, or "as a necessary -and proper means to execute the powers of the government.*

31 Bouvé CL, 'Regulation of International Air Navigation under the Paris Convention' (1935) 6(3) Journal of Air Law and Commerce 299, 315.

32 *See* Section 3.2.2.2 of this research.

3.2.3 Concluding remarks of Section 3.2

This section on the pre-Chicago regime examined the early regulation of the criminal liability of pilots before the coming into force of the Chicago Convention (1944). Scholars of the early days of aviation note that the Paris Conference of 1910 was a "diplomatic failure," even if it was a significantly valuable addition to the evolution of international air law.[33]

Article 30 of the draft Paris Convention (1910) formed one of the reasons for the failure of this Convention. Prof. Cooper suggests that States could not undertake to adopt a regulatory framework pertaining to criminal liability because they were considered to have absolute jurisdiction above their own territories.[34] The adoption of Annex C of the draft Paris Convention of 1910 would have meant that States would have agreed to establish criminal liability of pilots based on non-compliance with Annex C of the draft Paris Convention (1910), which would have implied surrender of their regulatory power. As a result, it never came into force. That is also why many States did not ratify the Paris Convention (1919).

However, one aspect of this early regime remains valid despite the signalled disagreements and political discussions. The drafters of the draft Paris Convention (1910) showed their clear intention to promote safety. Punishment was seen as a tool to achieve this objective.[35]

Considering the above analysis, the following section is dedicated to the Chicago Convention (1944). It aims to analyse the principal provisions of the Chicago Convention (1944) relating to the criminal liability of pilots in aviation accidents.

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33 *See* Sand PH, De Sousa Freitas J and Pratt GN, 'A Historical Survey of International Air Law Before the Second World War' (1960) 7(1) McGill Law Journal 24, 30, Hamilton KA, 'The Air in Entente Diplomacy: Great Britain and the International Aerial Navigation Conference of 1910' (1981) 3(2) The International History Review 169, 169, and Cooper JC, 'The International Air Navigation Conference, Paris 1910' (1952) 19(2) Journal of Air Law and Commerce 127, 127.

34 Cooper JC, 'The International Air Navigation Conference, Paris 1910' (1952) 19(2) Journal of Air Law and Commerce 127, 141. *See also* Sections 1.4.2 and 3.3.1.3 of this research.

35 During the Chicago Conference preparing the Chicago Convention (1944), the representatives of Canada proposed a draft based on two of the mentioned provisions in the pre-Chicago Convention regime, including Article XXXII. This Draft reads as follows: "Each member states undertakes to adopt measures to ensure that every aircraft flying above the limits of its territory and that every aircraft whenever it may be carrying its nationality mark, shall comply with the regulations contained in Annex … Each of the member states undertakes to ensure the prosecution and punishment of all persons contravening these regulations." With a minor revision, that draft provision was adopted and has become the present Article 12. *See also* Section 3.3.

3.3 Principal provisions of the Chicago Convention (1944)

3.3.1 Analysis of Article 12 of the Chicago Convention (1944)

3.3.1.1 Structure of the analysis of Article 12 of the Chicago Convention (1944)

The analysis of Article 12 in this research focuses on the element of 'prosecution'. The last sentence of Article 12 states: "Each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable."

Discussion of this provision is not only of interest because of its pertinence to the topic of this study, being the potential criminal liability of pilots, but also because of its limited exploration in air law research.[36] Previous studies concerning Article 12 of the Chicago Convention (1944) focused on "Rules of the Air", in relation to their legal effect on the high seas or State responsibility.[37] Much less attention has been devoted to the aspect of prosecution,[38] which has led to conflicts in interpretation.[39] Hence, the following sections are dedicated to an analysis of Article 12 in this context.

3.3.1.2 Text of Article 12 of the Chicago Convention (1944)

This study selects Article 12 of the Chicago Convention (1944) as the principal provision in the context of the criminal liability of pilots under the safety paradigm. No amendments have been made to Article 12 since 1944.[40]

Article 12 reads as follows:

> "*Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating*

36 *See* Section 1.1.5.

37 *See* Cooper JC, 'The Chicago Convention – After Twenty Years' (1965) 14 Zeitschrift fur Luft- und Weltraumrecht 272, 276, that briefly mentions that Article 12 affirms that the Chicago Convention (1944) deals with rules of the air with its legal effect and Van Dam RD, 'Lease, Charter and Interchange of Aircraft and the Chicago Convention – Some Observations' (1994) 19 Air and Space Law 124 that only briefly mentions that Article 12 contains the State obligation.

38 *See* ICAO, *Legal Committee Working Paper LC36-WP8-2 Common Guidelines on Article 12 of Chicago Convention – Enforcement of Violations Committed by Foreign Air Carriers* (2015) and ICAO, *Assembly Working Paper A40-WP/101: Article 12 of the Chicago Convention: Communication Mechanism and Guidelines to Support Its Implementation* (2019)

39 In 2016, Brazil submitted an application on the interpretation of Article 12 of the Chicago Convention (1944) to ICAO. Section 4.2.4.2 of this research investigates this case more in-depth. Please *see also* ICAO, 'Settlement of Differences' (Unknown) <https://www.icao.int/annual-report-2020/Pages/supporting-strategies-legal-and-external-relations-settlement-of-differences.aspx> accessed 13 October 2024 and Zhang L, *The Resolution of Inter-State Disputes in Civil Aviation* (Oxford University Press 2022) 103-104.

> *to the flight and manoeuver 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 insure the prosecution of all persons violating the regulations applicable.*"

Nowhere else does the Chicago Convention (1944) use the word 'prosecution'.[41] However, this complex provision presents several layers of obligations,[42] all of which may impact the interpretation of the conditions for prosecution, as to which see the following sections.

3.3.1.3 The first sentence on ensuring compliance

- *Structure of the first sentence*

The first sentence of Article 12 of the Chicago Convention (1944) demonstrates the complexity of the provision by presenting multiple intertwined obligations therein. *Firstly*, each Contracting State has an obligation to adopt air navigation-related measures in the national airspace, which it must apply to and enforce with respect to all aircraft flying over or manoeuvring within its territory. Dissecting the sentence, the foremost discernible obligation involves the commitment of Contracting States to implement air navigation measures. The measures shall enable aircraft compliance with the "rules and regulations relating to the flight and maneuver of aircraft."

The subsequent sections elaborate on the various obligations arising from this framework, starting from the obligations imposed on aircraft, which I see as the most significant obligation.

- *Scope of application – aircraft in two groups*

The "adopted" measures apply to two categories of aircraft.

The *first* category is comprised of any aircraft overflying or manoeuvring within the territory of the undertaking State regardless of nationality.

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40 During the Chicago Conference preparing the Chicago Convention (1944), the representatives of Canada proposed a draft based on two of the mentioned provisions in the pre-Chicago Convention regime, which is Article XXXII. Article XXXII of the Canadian Draft reads as follows: "Each member states undertakes to adopt measures to ensure that every aircraft flying above the limits of its territory and that every aircraft whenever it may be carrying its nationality mark, shall comply with the regulations contained in Annex … Each of the member states undertakes to ensure the prosecution and punishment of all persons contravening these regulations." *See* texts of draft Article 30 of the draft Paris Convention (1910) and Article 25 of the Paris Convention (191) in Section 3.2.1 and 3.2.2. *See also*, among many other publications, Correa V, 'The Legacy of the 1919 Paris Convention Relating to the Regulation of Aerial Navigation' in Mendes de Leon PMJ and Buissing TN (eds), *Behind and Beyond the Chicago Convention: The Evolution of Aerial Sovereignty* (Wolters Kluwer 2019) 5.

41 Discussion on the term 'prosecution' occurs in Section 3.3.1.6 of this research.

42 *See* Section 1.5.2.3 of this research.

The *second* category pertains to aircraft carrying the nationality mark of the undertaking States, regardless of the location of the aircraft.[43] The establishment of this second category aligns with what Prof. Cooper insisted, that "each State is reciprocally responsible for the international good conduct of the aircraft having its nationality."[44]

Prof. Cheng opines that by identifying these two categories of aircraft, Article 12 of the Chicago Convention (1944) can ensure compliance in relation to most of the aircraft flying in the world.[45] These two groups of aircraft have not changed since the Paris Convention (1919).[46]

- *Compliance*

The first sentence of Article 12 refers to compliance. Grammatically, compliance means to "act in accordance with a wish or command."[47] Therefore, the aircraft in the two groups discussed are to act following the "rules and regulations relating to the flight and manoeuvre of aircraft."

Compliance with provisions and standards drawn up in the regime governing international civil aviation has early on been recognized as critical for the promotion of safety.[48] Dating back to the pre-Chicago regime, the drafters held that compliance with the Annexes of the Paris Convention (1919) would prevent accidents.[49] Despite the legal force of the SARPs of

43 For the obligation to carry a nationality mark of the State of Registry, *see* Chicago Convention (1944), ch III.

44 Cooper JC, 'Backgrounds of International Public Air Law' (1965) 1 Yearbook of Air and Space Law 3, 3. Regarding the nationality of the aircraft, Article 17 of the Chicago Convention (1944) regulates the matter. The rules for establishing the nationality of an aircraft are laid down in the national legislations of States. The registration of aircraft determines the nationality of the aircraft. However, the registration of an aircraft is dependent on domestic law. To an extent, the registration of aircraft is attached to the owner's nationality. In this case, then, the spirit of the draft Paris Convention (1919) also remains in the Chicago Convention (1944). For example, for the US registry, an aircraft is eligible for the US registry if the owner's nationality or business entity is strongly associated with the US. In the Netherlands, the nationality of an aircraft is not always attached to the owner, unlike in the US. However, if a natural person as an applicant does not reside in the Netherlands or the legal entity as an applicant does not have its registered office in the Netherlands, at least the management should take place in the Netherlands for an aircraft to obtain the Dutch nationality. *See*, the following two websites: FAA, 'Aircraft Registration' (2022) <https://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/register_aircraft> accessed 13 October 2024 and *Regeling aanvraag in- of overschrijving van luchtvaartuigen in het luchtvaartuigregister* (Geldend van 05-11-1999 t/m heden) < https://wetten.overheid.nl/BWBR0009492/1999-11-05/#HoofdstukII> accessed 13 October 2024. See also, Sections 3.2.1.4 and 3.2.2.3 for a comparison of how nationalities were determined under the pre-Chicago Convention regime.

45 Cheng B, *The Law of International Air Transport* (Stevens & Sons Limited / Oceana Publications INC 1962) 139-140. In the end, the two categories cover all aircraft unless the aircraft is unregistered and flying in non-ICAO Member States.

46 *See* Section 3.2 of this research.

47 *Oxford Dictionary of English* (3rd edn, Oxford University Press 2015 (online)), "Comply"

48 *See* Section 2.2 of this research.

49 *See* Section 3.2.2 of this research.

the Chicago/ICAO regime not being as strong as that of the Annexes of the pre-Chicago regime,[50] SARPs are still the primary instrument to guarantee safety in international civil aviation.

- *Rules and regulations relating to the flight and manoeuvre of aircraft*

Article 12 of the Chicago Convention (1944) starts by addressing air navigation rules, that is, "rules and regulations relating to the flight and maneuver of aircraft."[51] Prof. Milde and Prof. Cheng opine that the first sentence of Article 12 imposes an obligation to observe compliance with the Rules of the Air contained in ICAO Annex 2.[52] However, these authors do not elucidate how they interpreted the "rules and regulations relating to the flight and maneuver of aircraft" as Rules of the Air contained in ICAO Annex 2.[53] The following paragraphs attempt to specify the term "rules and regulations" referred to in Article 12 of the Chicago Convention (1944).

The predecessors of ICAO Annex 2 were drawn up in Annexes C and D in the pre-Chicago regime.[54] Apart from the Rules of the Air, these regimes, Annexes C and D, contained rules regarding the operation of the aircraft, air traffic, and aerodromes.[55] Amongst these, only Rules of the Air were contained in ICAO Annex 2, while ICAO Annex 1 included SARPs regarding requirements for an applicant to become a pilot. In 1950, the ICAO Council adopted ICAO Annexes 11 and 14 to cover air traffic and the operation of

50 As mentioned, unlike Annex C in the draft Paris Convention (1910) and Annex C in the Paris Convention (1919) that were considered effective and absolute, opinions on the legal force of SARPs under the Chicago Convention (1944) vary. For a more detailed analysis of the legal force of SARPs, *see* Section 1.5 of this research.

51 Despite the title of Article 12 of the Chicago Convention (1944), the focus of the recent disputes over the interpretation of Article 12 was raised concerning prosecution. Please *see* Section 3.3.1.6 of this research.

52 *See* Milde M, *International Air Law and ICAO* (Essential Air and Space Law, 3rd edn, Eleven International Publishing 2016) 50 and Cheng B, *The law of international air transport* (London [etc.]: Stevens [etc.] 1962) 139 and *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 881-882. In addition to this, Prof. Milde repeated the expression "highway code of the air" multiple times when referring to Annex 2. *See*, Milde M, *International Air Law and ICAO* (Essential Air and Space Law, 3rd edn, Eleven International Publishing 2016) 49, 72 and 78.

53 Annexes to the Chicago Convention (1944) does not define "maneuvering," but it is provided in the ICAO ADREP (or ECCAIRS Aviation) taxonomy. According to the document, "maneuvering" means "an event involving a phase of flight in which planned low-level flight, or attitude, or planned abnormal attitude, or abnormal acceleration occurs," and "low altitude/aerobatic flight operations." In Annex 2 to the Chicago Convention (1944), it is also possible to find the reference to "manoeuver" that it includes taxiing, landing or taking off. Additionally, the FAA of the US refers to "maneuvering" as the phase of flight which involves 'turning, climbing, or descending close to the ground'. *See* ICAO Air Navigation Bureau, 'ADREP Taxonomy – Event Phases (v. 29 April 2013)' (2013) <https://www.icao.int/safety/airnavigation/AIG/Pages/ADREP-Taxonomies.aspx> accessed 13 October 2024, 3-1 and General Aviation Joint Steering Committee, 'Safety Enhancement Topic – Maneuvering Flight' in *FAA Safety Briefing Magazine* (2018)

54 Sections 3.2.1.2 and 3.2.2.2 of this research.

55 Paris Convention (1919), Annex D; Section V.

aerodromes as Annexes which are separate from ICAO Annex 2 on Rules of the Air.[56] As time went by, more Annexes, such as ICAO Annexes 6 and eventually 19, started discussing matters involving the "flight and maneuver of aircraft."[57]

Therefore, notwithstanding that the declaration laid down in ICAO Annex 2 in conjunction with relevant resolutions provides that the "rules and regulations relating to the flight and maneuver of aircraft" are contained in ICAO Annex 2 only,[58] it seems to me that the flight and manoeuvre rules under Article 12 of the Chicago Convention (1944) must cover a variety of ICAO Annexes mentioned below.[59]

Hence, the compliance required in Article 12 of the Chicago Convention (1944) broadly refers to *all* SARPs contained in ICAO Annexes, applying to the flight and manoeuvring of aircraft. ICAO Annexes 1, 2, 6, 11, and 19 also lay down SARPs for flight and manoeuvre.

- *Definition of the term "in force"*

Article 12 of the Chicago Convention (1944) purports to achieve compliance with the flight and manoeuvre rules *in force.* Some commentators interpret this as meaning that aircraft must fly per the local flight and manoeuvre rules of the State they fly over.[60] Additionally, in light of Article 11 of the Chicago Convention (1944),[61] local flight manoeuvre rules must apply to both national and foreign aircraft without discrimination, emphasising the

56 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Foreword and ICAO, *Annex 14 Air Traffic Services Volume I Aerodrome Design and Operation* (9th edn, 2022) Foreword.

57 Cf. Section 3.4.1.4 of this research on ICAO Annex 6. Flight and manoeuvre of aircraft fall under the scope of operational control. Since 2013, specific parts regulating safety management in ICAO Annexes 6 and 11 moved to ICAO Annex 19 on Safety Management. Therefore, ICAO Annex 19 must eventually be included in the set of "rules and regulations" by virtue of Article 12 of the Chicago Convention (1944). *See* ICAO, *State Letter AN 8/3-12/42: Proposal for Annex 19 and related consequential amendments to Annexes 1, 6, 8, 11, 13 and 14, Volume I* (2012)

58 ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Standard 2.1.1. and Note. *See also*, ICAO, *Assembly Working Paper A40-WP/101: Article 12 of the Chicago Convention: Communication Mechanism and Guidelines to Support Its Implementation* (2019) that refers to Annex 2 only in its interpretation of Article 12.

59 ICAO Annex 2 also references ICAO Annex 6. *See* ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Standard 3.2, 3.2.3, and Attachment A.

60 *See*, Cheng B, *The Law of International Air Transport* (Stevens & Sons Limited / Oceana Publications INC 1962) 123 and Honig JP, *The Legal Status of Aircraft* (Ph.D. Thesis, Leiden University 1956) 45.

61 Chicago Convention (1944), art 11: "Subject to the provisions of this Convention, the laws and regulations of a contracting State relating to the admission to or departure from its territory of aircraft engaged in international air navigation, or to the operation and navigation of such aircraft while within its territory, shall be applied to the aircraft of all contracting States without distinction as to nationality, and shall be complied with by such aircraft upon entering or departing from or while within the territory of that State."

national treatment principle in international air law.[62] Hence, the same rules regulate the criminal liability of pilots, regardless of the nationality of the pilots or aircraft.

This "in-force" clause is the only difference between the pre-Chicago regime and the Canadian draft, which is the basis of Article 12.[63] Also, this was part of the only revision made during the drafting of Article 12 of the Chicago Convention (1944),[64] as to which see the following discussion.

First and foremost, this "in-force" condition must have been added in accordance with the legal force of SARPs as laid down in ICAO Annexes.[65] The Chicago Convention (1944) does not restrict the autonomy of States to regulate internal affairs.[66]. For ICAO Annexes containing flight and manoeuver rules to be "in-force," these must be implemented into the domestic legal system of a Contracting State.[67]

- *Obligation of Contracting States – types of available measures*

The word "insure" in Article 12 should be understood as "to make certain, especially by taking necessary measures and precautions,"[68] or to "make something certain, or to be certain about something."[69] In the latter case, it

62 *See also,* Dempsey PS, *Public International Air Law* (McGill University 2008) 168.

63 Section 3.3.1.2 of this research.

64 *See Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 688 and above paragraphs on the "rules and regulations relating to the flight and maneuver of aircraft" in the present Section 3.3.1.3.

65 Section 1.5.2 of this research.

66 Dr Honig's interpretation is interesting to visit. He argues that "ICAO has no legislative power" and the Chicago Convention (1944) does not impose any obligation on the States to adopt "Annexes." The initial wording made in the Canadian draft was "in regards to its own nationals" before it was changed to "in force." I only partially agree with his view because I interpreted that the Chicago Convention (1944) obliges Contracting States to notify differences not to implement SARPs. *See* Honig JP, *The Legal Status of Aircraft* (Ph.D. thesis, Leiden University 1956) 49.

67 Under Article 38 of the Chicago Convention (1944) as provided in Section 1.5.2. discussing the legal force of SARPs, Contracting States are *expected* to implement Standards. More precisely, I have established in Section 1.5.2.3. that Standards are binding as long as States have not notified differences based on safety concerns. With the notification of differences based on safety concerns, States will not proceed to implement Standards into the domestic legal framework but will implement the differences. As to Recommended Practices, I concluded in Section 1.5.2.6. that they are not binding, and there is no obligation for States to notify discrepancies. Therefore, I can conclude that the first sentence of Article 12 of the Chicago Convention (1944) recognizes these legal forces of SARPs, and States have the limited freedom to implement SARPs into their domestic legal system. This aspect must be considered when exploring the "measures" that the following paragraphs on the "Obligation on Contracting States" interpret.

68 *Merriam-Webster Dictionary*, 'Insure' <https://www.merriam-webster.com/dictionary/insure> accessed 13 October 2024.

69 *Cambridge Dictionary*, 'Ensure' (2023) <https://dictionary.cambridge.org/> accessed 13 October 2024.

can be interchangeably used with the word 'ensure'.[70] Therefore, the first obligation laid down in this sentence obliges Contracting States to promote compliance with the flight and manoeuvre rules in force with reference to relevant ICAO Annexes referred to in earlier sections above.

As mentioned in the subsection on flight and manoeuvre rules of Section 3.3.1.3, commentators explain that Article 12 imposes an obligation to observe compliance.[71] To me, the function of 'safety oversight' of a Contracting State is also included in the observation of compliance.[72] 'State oversight' is defined as a "function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations."[73] Therefore, Article 12 imposes the Safety oversight obligation to States exclusively on the flight and manoeuvre rules. However, the oversight duty extends beyond explicit rules that are written and thus, refers to the broader safety paradigm as defined in Chapter 2.

Having the above in mind, I refer to lists of the oversight functions as drawn up by Prof. Huang and Dr Ratajczyk.

According to Prof. Huang, the following measures are designed to ensure safety:

- "*Establishment of safety oversight responsibility on the part of sovereign States*" by setting up the oversight body
- "*Adoption of international standards, recommended practices, and other related material; and*
- *Establishment and implementation of safety oversight and security audit programmes for verifying State compliance with international standards and recommended practices.*"[74]

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70 *Cambridge Dictionary*, 'Ensure' <https://dictionary.cambridge.org/> accessed 13 October 2024.

71 *See* Milde M, *International Air Law and ICAO* (Essential Air and Space Law, 3rd edn, Eleven International Publishing 2016) 50 and Cheng B, *The law of international air transport* (London [etc.]: Stevens [etc.] 1962) 139 and *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 881-882. In addition to this, Prof. Milde repeated the expression "highway code of the air" multiple times when referring to Annex 2. *See*, Milde M, *International Air Law and ICAO* (Essential Air and Space Law, 3rd edn, Eleven International Publishing 2016) 49, 72 and 78. *See also,* Honig JP, *The Legal Status of Aircraft* (Ph.D. Thesis, Leiden University 1956) 49.

72 Section 1.8.1. of this research on ICAO.

73 *See* ICAO, *Annex 19 Safety Management* (2nd edn, 2016) Definition. This is a second definition that has developed over time. The very initial definition, which was set in 1999, presents a stronger link between the function and Article 12 within the safety paradigm. The 1999 definition is as follows: "a function by means of which States ensure effective implementation of the safety-related Standards and Recommended Practices (SARPs) and associated procedures contained in the Annexes to the Convention on International Civil Aviation and related ICAO documents." For the definition, *see* ICAO, *Safety Oversight Manual Part A – The Establishment and Management of a State Safety Oversight System (Doc 9734)* (3rd edn, 2017) Specification 1.1.3.

74 Prof. Huang thoroughly visits each of these mechanisms. For more, please *see* Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009), ch 2.

Based on these activities, ICAO promotes a paradigm of safety to achieve the "technical and operational safety of civil aviation on a worldwide basis."[75]

Dr Ratajczyk interprets that the following functions ensure aviation safety:

- *"Rulemaking, including the development and promulgation of civil aviation safety laws and operating regulations;*
- *Certification and continuous oversight, including the issuance of approvals and continuous assurance that the certificate holder meets the applicable safety requirements; and*
- *Enforcement designed to ensure compliance."* [76]

These mechanisms put forward by Dr Ratajczyk are particularly designed for commercial aviation,[77] but can apply to general aviation as well.[78] Both authors consider the formulation of domestic rules as an additional tool for promoting safety.

Dr Ratajczyk adds "enforcement" as a measure to ensure compliance. Based on his selection of measures, I see that prosecution may also be an enforcement mechanism ensuring compliance by prohibiting violations and preventing accidents. While the pre-Chicago Convention regime also puts forward prosecution and punishment as an enforcement tool,[79] given that the purpose of prosecution and the purpose of administration of criminal justice is also deterrence, I agree with that perception.

3.3.1.4 The second sentence on prescribing uniformity of rule making

- *Structure of the second sentence*

The second sentence of Article 12 of the Chicago Convention (1944) obliges Contracting States to achieve uniformity in the regulations referred to in this provision.[80] This uniformity is subject to the condition that it shall be consistent with regulations which are "established from time to time" under the Chicago Convention (1944). The uniformity must be achieved "to the greatest possible extent."

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75 Huang J, 'Aviation Safety and ICAO' (Leiden University 2009) 21.

76 Ratajczyk M, *Regional Aviation Safety Organisations*: *Enhancing Air Transport Safety through Regional Cooperation* (PhD thesis, Leiden University 2014) 10.

77 Ratajczyk M, *Regional Aviation Safety Organisations: Enhancing Air Transport Safety through Regional Cooperation* (PhD thesis, Leiden University 2014) Chapter 1.

78 Defined as all civil aviation aircraft operations except for commercial air transport or aerial work, defined as specialised aviation services for other purposes. *See ICAO, Annex 6 Operation of Aircraft, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022).*

79 *See* Section 3.2.1.4 and 3.2.4 of this research.

80 *See* Section 3.3.2.3 of this research. "[T]heir own regulations" referred to in the second sentence mean "rules and regulations relating to the flight and maneuvering of aircraft" that are "in-force" in a Contracting States.

I attempt to visit this obligation in conjunction with the analysis of the first sentence.[81] According to the first sentence, "their own regulations" referred to in the second sentence must mean flight and manoeuver rules that are "in-force" in a Contracting State. Considering my analysis of the first sentence of Article 12 in conjunction with the analysis of the legal force of SARPs,[82] I argue that the second sentence reinforces the obligations under Articles 37 and 38 of the Chicago Convention (1944). These provisions oblige States to implement air navigation rules as adopted by ICAO. States can escape from this obligation by notifying ICAO of their inability to implement such ICAO rules.[83]

- *Uniformity*

The very purpose of the establishment of SARPs is to support ICAO Member States by establishing operational and technical rules through *uniformity*.[84] Views of commentators,[85] definitions of SARPs that present the aim of uniform application,[86] and further efforts for uniform implementation through ICAO's Universal Safety Oversight Audit Programme (USOAP) all support uniformity as the core practice of international civil aviation.[87] In that sense, uniformity underpins the safety paradigm.[88]

81 Section 3.3.1.3 of this research.

82 This research, up to this point, analysed multiple times that Standards have a conditional binding legal force, whereas the Recommended Practices do not have such. In addition, any other technical instruments do not hold the binding force. This was based on the interpretation of Articles 37 and 38, which require Contracting States to collaborate for uniformity but not to stay uniform at all times. Yet, States are obliged to notify differences between "their own regulations" and any Standards pertinent to Annexes to the Chicago Convention (1944). These differences shall be based on impracticability, safety-wise. *See* Sections 1.5.2.5 and 1.5.2.6.

83 As explained in Section 1.5.2 of this research.

84 Chicago Convention (1944), art 37. *See also* the definition of SARPs in Sections 1.5.2.5 and 1.5.2.6 of this research.

85 Dempsey PS, 'Compliance & Enforcement in International Law: Achieving Global Uniformity in Aviation Safety' (2004) 30 North Carolina Journal of International Law 1, 10 and 14, and Milde M, 'Enforcement of Aviation Safety Standards – Problem of Safety Oversight' (1996) 45 Zeischrift fur Luft- und Weltraumrecht 3, 4.

86 Sections 1.5.2.5 and 1.5.2.6 of this research.

87 *See* Sections 1.8.1. To compare: harmonisation of rules and procedures encompasses uniformity. It means combining parts, elements, or related things to create a consistent and orderly whole, not creating an identical application. As Prof. Boodman conceptualised, harmonisation "requires diversity and eschews uniformity," which may mean more complexity, while such complexity has to be pleasing. In addition, harmonisation is only a means to achieve specific goals, but not the goal itself. In other words, harmonisation would still aim for consistency while accepting variations through mutual understanding and cooperation to support the safety paradigm in aviation. Therefore, in my opinion, harmonisation can also be pursued by standardisation but does not require uniformity. *See*, Boodman M, 'Myth of Harmonization of Laws' (1991) 39(4) American Journal of Comparative Law 699, 701-703; Pereira R, *Environmental Criminal Liability and Enforcement in European and International Law* (Queen Mary Studies in International Law, Brill Nijhoff 2015) 142.

88 From the uniformity perspective, the aim of the safety paradigm and legal certainty aligns.

However, in practice, the uniformity underpinning the safety paradigm is somewhat limited due to the absence of genuine binding legal force of SARPs and other technical instruments of the Chicago Convention (1944). Their legal force is not the same as that of the treaty obligations under the Chicago Convention (1944) itself. As stated above, States may notify ICAO of their inability to implement ICAO rules in their national legislation.[89]

- *Those established from time to time under the Chicago Convention (1944)*

The second sentence of Article 12 of the Chicago Convention (1944) obliges Contracting States to keep their own regulations uniform with air navigation rules "established from time to time" under the Convention "to the greatest possible extent." The strength of this obligation is contradicted by arguments of multiple scholars, who claim, based on the grammatical interpretation of Article 37,[90] that SARPs have a rather weak status in that, as explained above, they have no absolute legal force *per se*.

Article 12 does not make a distinction between Standards and Recommended Practices.[91] Therefore, Contracting States must *uniformly* implement *all* norms laid down in ICAO Annexes as established under the Chicago Convention (1944) in their domestic legal systems.

Moreover, Article 12 emphasises the evolutionary nature of SARPs and other technical instruments, which feature relates to the power vested in the ICAO Council. Article 37 of the Chicago Convention (1944) provides that the ICAO "shall adopt and amend" SARPs and procedures, as may appear appropriate "*from time to time*."[92] Vested with this power, the ICAO Council adopts and amends SARPs and other technical instruments as developed and eventually proposed by relevant technical panels.[93] Based on their proposals, the ICAO Council creates new SARPs and amends existing ones.[94] Therefore, Contracting States must continuously implement new and amended SARPs concerning flight and manoeuvre rules.

- *Flexibility in implementation "to the greatest possible extent"*

Yet, there is room for flexibility in fulfilling the obligation under the second sentence. Uniformity is required, but 'only' to the "greatest possible extent."

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89 For the legal force of instruments, including SARPs, *see* Sections 1.5.2.5. to 1.5.2.7 of this research.

90 *See* Sections 1.5.2.5 and 1.5.2.6 of this research.

91 In other words, if it did, the discussion on the legal force of SARPs would have applied to Article 12 of the Chicago Convention (1944).

92 *Italics added*. Article 37 of the Chicago Convention (1944). See also the Council's Mandatory functions under Article 54.

93 Section 1.5.2.1 of this research.

94 *See*, ICAO, 'How ICAO Develops Standards' <https://www.icao.int/about-icao/airnavigationcommission/pages/how-icao-develops-standards.aspx> accessed 13 October 2024.

This formulation is similar to the discussions on the term "impracticability" under Article 38, which was introduced earlier in this research with respect to the legal force of SARPs.[95] Prof. Huang argues that the particular wording of "greatest possible extent" may provide "some reasonable amount of flexibility,"[96] while States should remain faithful to promoting safety under the Chicago Convention (1944).[97]

Arguably, while States must faithfully commit to fulfilling obligations under Article 12, I would like to clarify the formulation of "some reasonable amount of flexibility". It should be understood based on the preparatory work of the Chicago Convention (1944). The drafters of the Chicago Convention (1944), especially those who drafted technical standards, hoped for and expected a particular usage of SARPs and a contribution thereof to the safety of international civil air navigation, in which respect they made particular references to ICAO Annexes 2 and 11.

On the one hand, where ICAO Annex 2 on Rules of the Air is concerned, only limited conditional flexibility is allowed. The baseline expectation of the drafters appears to be full standardisation "in practically every respect," possibly requiring full adherence and, hence, uniformity.[98] However, at the same time, "subject only to the right of each nation to supplement the standard international rules with such national or local rules as its particular situation may require," States could provide supplements in as far as deviant rules are required, which may however never be contrary to specifications under Annex 2.[99]

Concerning ICAO Annex 11 on Air Traffic Service, *on the other hand*, the drafters of Article 12 were more flexible. The preparatory work states that "definite commitment" to adherence is required but is expected with respect to only *Standards* in ICAO Annex 11.[100] For subjects ICAO Annex 11 do not cover, or in the case of Recommended Practices therein, States may create their own supplements.[101]

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95 *See* Sections 1.5.2.5 to 1.5.2.7 of this research.

96 Prof. Huang interpreted this term based on the analysis of the "auto-interpretive international law."

97 Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009) 50.

98 *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 705.

99 *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 705. In addition, *see* Section 3.3.1.3 of this research.

100 *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 705.

101 *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 703-707.

While the commitments imposed on States by virtue of the above provisions seem similar, I observe differences with respect to the degree of flexibility provided to States for achieving uniformity. While ICAO Annex 2 is fully standardised (and thus does not contain Recommended Practices), no deviations are allowed.[102] Therefore, only to the extent that the supplements do not contradict the Standards contained in ICAO Annex 2, States may provide supplements and publish them. States, however, enjoy more discretionary power under Annex 11.

3.3.1.5 Third sentence – The absolute character of Rules of the Air on high seas

- *Structure of the third sentence*

Unlike the first two sentences, the third sentence of Article 12 holds a simple structure. Yet, its legal implications may be even more complicated.

- *No exceptions on high seas*

The third sentence of Article 12 provides that "[o]ver the high seas, the rules in force shall be those established under this Convention." High seas are open to all States for air navigation and are known as "unassigned airspace."[103] In this area, no State is entitled to claim sovereignty,[104] as confirmed in Article 1, to be read in conjunction with Article 2 of the Chicago Convention (1944), recognising State sovereignty in national territory.[105] According to these provisions of the Chicago Convention (1944), the high seas are formed by the seas that are not part of the territorial seas of States. Hence, no State has autonomy over the area indicated as the airspace over the high seas.

This third sentence adds a layer to the first two sentences of Article 12 of the Chicago Convention (1944). The obligations meant in the first sentence can apply to the navigation of civil aircraft above the high seas only partially because no State can claim either sovereignty or autonomy in the sense of rulemaking powers in the airspace above the high seas. Thus, the Standards drawn up in ICAO Annexes become *the* norms for compliance.[106] The uni-

102 ICAO Annex 2 contains only Standards. However, this has not always been the case, but only since 1951. Before Amendment 1 came into effect on 1 April 1952 and became applicable on 1 September of the same year, Annex 2 contained recommended practices as well. In other words, until 1952, the regular legal authority of ICAO Annexes applied to Rules of the Air, and hence, there would not have been a question. *See* ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Foreword.

103 ICAO, *First Unassigned High Seas Airspace Special Coordination Meeting (SCM/1) Working Paper SCM/1-WP/02: ICAO Provisions, Policy and Guidance Material on the Delegation of Airspace over the High Seas* (2019) 1. Nevertheless, there are operational conditions that bind air navigation. *See* Zhang W, *Protection of Aviation Security Through the Establishment of Prohibited Airspace* (PhD thesis, Leiden University 2023) ch 4 s 2.

104 *United Nations Convention on the Law of the Sea* (10 December 1982) [UNCLOS], art 89.

105 Even though the principle of the freedom of the seas was codified only in 1958, this principle has been present since the 1600s.

106 *See* Section 3.3.1.3 of this research.

formity and flexibility given in the second sentence of Article 12, then, do not apply to the obligation under this specific sentence.[107]

Analysis of the first and second sentences of Article 12 of the Chicago Convention (1944) demonstrates that the "rules in force' referred to in the third sentence are those which are laid down in Annexes 1, 2, 6, 11, and 19.[108] In summary, States are not allowed to notify ICAO of any deviations in their national legislation from SARPs with respect to flight and manoeuvre rules for the airspace above the high seas.[109]

On the high seas, the absence of sovereignty results in complete uniformity governed by ICAO rules. This result aligns with the goal of standardisation, which further reinforces the safety paradigm.

Since States have no power with respect to rule-making in the airspace above the high seas, which is left to ICAO, the question of enforcement of these rules arises. While an aircraft is flying above the high seas, the State of Registry assumes the role of the supervising State.[110] Therefore, the general option applies to the high seas: the State of Registry may choose to implement applicable SARPs in ICAO Annexes into their domestic legal system, or States may automatically grant these SARPs the same status as domestic law without a further need for implementation.

3.3.1.6 Fourth sentence on prosecution

- *Structure of the fourth sentence – the prosecution of individuals violating applicable regulations*

Under the fourth sentence of Article 12 of the Chicago Convention (1944), each Contracting State "undertakes to insure the prosecution" of any individuals who violate the applicable regulations. This is a pivotal sentence, emphasising the commitment of Contracting States to enforce regulations with respect to the flight and manoeuvre of aircraft. By undertaking this obligation, States actively contribute to maintaining safety, order, and compliance in international civil aviation.

The following subsections present the significance and implications of this sentence, shedding light on the crucial role played by Contracting States in prosecuting those who contravene the prescribed flight and manoeuvre rules.

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107 *See* Section 3.3.1.4 of this research.

108 *See* Section 3.3.1.3 of this research.

109 The drafters of the UNCLOS present that ICAO Annexes 6, 11, and 12 also apply on high seas. *See* UN, 'Official Records Volume I: Preparatory Document (A/CONF.13/37)' (United Nations Publication 1958) 68.

110 *See* Subsection "Scope of the application" in Section 3.3.1.3.

- *Definition of prosecution*

I regard the term 'prosecution' as referring to a formal criminal justice process, excluding civil or administrative action. The grammatical and supplementary interpretation confirms this.

Grammatically, (legal) dictionaries define prosecution as follows:

- *"The act or process of prosecuting; specifically: the institution and continuance of a criminal suit involving the process of pursuing formal charges against an offender to final judgment";*[111]
- *"The process of conducting legal proceedings against someone in respect of a criminal charge."*[112]

It follows that prosecution is commonly related to only criminal acts and criminal proceedings.

The pre-Chicago regime is a supplementary tool for interpretation as the outcome of the discussion thereof was thatcriminal law enforcement was likely intended in the regime, although the meaning of the term 'prosecution' was not a point of discussion during the Chicago Conference preparing the Chicago Convention (1944).[113]

In other sources, ICAO refers to the term 'criminal proceedings' instead of prosecution.[114] This term appears in the discussion regarding the principle of protection referred to in ICAO Annex 19 and the Safety Management Manual (SMM).[115] In the SMM, ICAO explains what it perceives as a "proceeding", namely:

> *"The term "proceeding" may be more comprehensive and broader in scope than the term "action". It may also refer rather more narrowly to the processes of a particular body to review or enforce "actions" that have been taken by another authority (or an agency within the same authority). In a general sense, the terms "proceeding" and "action" may be understood to encompass all the steps taken or measures adopted in order to initiate, give effect to, or review a decision of an authority affecting a person's rights, privileges, legitimate interests or reasonable expectations (as these may be identified under applicable laws). In view of different legal systems, the nature and scope of particular actions or proceedings may vary. "*

111 Merriam-Webster, 'Merriam-Webster Dictionary – Prosecution' (2024) <https://www.merriam-webster.com/dictionary/prosecution> accessed 13 October 2024

112 Oxford University Press, 'Oxford English Dictionary – Prosecution' (2023) <https://www.oed.com/search/dictionary/?scope=Entries&q=prosecution> accessed 13 October 2024.

113 The statement of the Canadian representatives does not contain any discussion on the prosecution nor the draft submitted to the Chicago Conference.

114 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) App 3-2.

115 ICAO, *Safety Management Manual (2018)* (Doc 9859, 4th edn, 2018). For the principle of protection, *see* Sections 2.4.2.3. for a brief description, and Section 3.4.2.2. for an in-depth analysis, both in this research.

With this, the SMM further provides an example of criminal and civil proceedings as thefollowing:

> *"Criminal and civil actions or proceedings usually involve judicial authorities. These proceedings may include the commencement of the action, the appearance of the defendant, all ancillary or provisional steps, the pleadings, the trial discovery processes and other formal inquiries. As a consequence of such actions or proceedings, a person may be subject to … in some cases incarceration."*[116]

The reference to 'incarceration' reinforces the notion of 'true' criminal action in that this sanction can only be imposed through a 'true' criminal process.

- *The term "regulations applicable"*

It is also essential to determine the meaning of the term "the regulations applicable" in the fourth sentence of Article 12. Considering the analysis in the above sections, I identify these regulations as the national flight and manoeuvre rules as implemented and applicable over the airspace of the State of Registry and State overflown, and the flight and manoeuvre rules of the State of Registry as the "regulations applicable" on the high seas. As stated above, these categories of regulations are based on and must conform to ICAO Annexes 1, 2, 6, 11, and 19.

- *"All persons" in the context of the fourth sentence*

As follows from the nature of flight and manoeuvre, it may seem logical that only pilots can be subject to prosecution. The duty of compliance must indeed generally lie with the pilots as an aircraft does not operate itself.[117] However, in reality, and legally, the duty cannot only apply to pilots.

This fourth sentence of Article 12 refers to "all persons", which may mean any person governed by these rules. Anyone involved in the operation would mean not only pilots but also air traffic controllers. The identification of "all persons" who may be subjected to prosecution under Article 12 requires a deeper search into ICAO Annexes, as to which see Section 3.4 of this Chapter.

- *Violation*

The other condition for prosecution pertains to a *violation.* Only if there is a violation is a Contracting State responsible for ensuring prosecution. Therefore, I explore the term "violation" from a grammatical and aviation safety point of view.

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116 ICAO, *Safety Management Manual* (Doc 9859, 4th edn, 2018) 7-9.

117 In this case, of course, automation and autonomy in operation are disregarded for convenience reasons, for this chapter focuses solely on pilots at this stage.

Violation refers to any action of breaking a law or action against a law.[118] 'Violation' is also a synonym of non-compliance.[119] While this may seem straightforward, understanding the notion of a violation in the context of civil aviation is more complex, also in the absence of a solid source containing discussion by the drafters of the meaning to be attributed to the term under Article 12.

The technical instruments, including but not limited to SARPs, PANS, and Manuals of ICAO, provide more focused aviation and technical definitions of violations. As discussed above (in Chapter 1), in the evolution of the safety paradigm (as a response to accidents involving human factors, which could have been prevented by the organisational control of service providers),[120] ICAO started introducing the concept of safety management.[121] According to ICAO, within safety management, a violation means a "deliberate act of wilful misconduct or omission resulting in a deviation from established regulations, procedures, norms or practices,"[122] leading to an immediate adverse impact, such as an accident.[123] ICAO further added that "violation" should be distinguished from an "error" that is "an action or inaction by an operational person that leads to deviation from organizational or the operational person's intentions or expectations."[124] Also, a simple failure with respect to compliance is not always a violation, as "most violations involve a conscious decision to depart from standard operating procedures."[125]

- *Ensuring prosecution*

The obligation set forth in the fourth sentence of Article 12 of the Chicago Convention (1944) is designed to ensure prosecution. Similar obligations concerning prosecution appear in the Tokyo Convention (1963) and the Montreal Sabotage Convention (1971).[126] These mainly deal with interna-

118 *See* Merriam-webster, 'Violate' <https://www.merriam-webster.com/dictionary/violating> accessed 13 October 2024, Cambridge Dictionary, 'Violate' <https://dictionary.cambridge.org/dictionary/english/violate> accessed 13 October 2024. In the Oxford dictionary, the term "violate" means to "break or fail to comply with (a rule or formal agreement)."

119 *See* Section 3.3.1.3 of this research.

120 *See* Section 2.2.5 of this research.

121 This eventually became the topic of ICAO Annex 19.

122 ICAO, *Safety Management Manual (2013)* (Doc 9859-AN/474, 3rd edn, 2013) 2-8.

123 ICAO, *Safety Management Manual (2013)* (Doc 9859-AN/474, 3rd edn, 2013) 2-3.

124 ICAO, *Safety Management Manual (2013)* (Doc 9859-AN/474, 3rd edn, 2013) Definition; 2-8-2-10.

125 Please *see* Reason J, *Human Error* (Cambridge University Press 1990) 195; Reason J, *Managing the Risks of Organizational Accidents* (Ashgate Publishing 1997) 72; Reason J, 'Achieving a Safe Culture: Theory and Practice' (1998) 12(3) Work & Stress 293, 303.

126 *Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft* (Montreal Protocol, 2014) [Montreal Protocol, 2014] and International Civil Aviation Organization (ICAO), *Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation*, 23 September 1971, 974 UNTS 177.

tional air crimes.[127] Commonly, such conventions encompass a provision labelled as an obligation *aut dedere aut judicare*, also referred to as the obligation to extradite or prosecute. This principle is broader than the obligation to ensure prosecution in Article 12.[128]

The first reference to this obligation is contained in Article 7 of the Montreal Sabotage Convention (1971).[129]

In this respect, the ICJ adopted the following approach:

> "*The obligation to submit the case to the competent authorities for the purpose of prosecution (hereinafter the "obligation to prosecute") was formulated in such a way as to leave it to those authorities to decide whether or not to initiate proceedings, thus respecting the independence of States parties' judicial systems. …. It follows that the competent authorities involved remain responsible for deciding on whether to initiate a prosecution, in the light of the evidence before them and the relevant rules of criminal procedure.*"[130]

Mainly, this interpretation would not often be applied to pilots as perpetrators of the unlawful interference, namely sabotage as covered by the Montreal Sabotage Convention (1971), are normally not pilots. Nevertheless, this approach still is useful to explain the understanding within the international civil aviation industry. the obligation to prosecute as such does not necessarily mean that States are obligated to prosecute pilots, because this obligation is restricted to submission to the competent authorities,[131] even in relation to the violations of the flight and manoeuvre rules. However, this does not mean that there is no obligation to engage in another manner with criminal prosecution, as the alternative obligation is to extradite, thereby enabling another State to conduct criminal prosecution.

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127 Some conventions apply to aviation specifically, while others do not.

128 For instance, the actions of pilots may not constitute an international crime.

129 Montreal Sabotage Convention (1971), art 7: "*The Contracting State in the territory of which the alleged offender is found shall, if it does not extradite him, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case to its competent authorities for the purpose of prosecution. Those authorities shall take their decision in the same manner as in the case of any ordinary offence of a serious nature under the law of that State.*"

130 *Questions relating to the Obligation to Prosecute or Extradite (Belgium v. Senegal)* (ICJ) 422, 455.

131 Additionally, the International Law Commission interpreted that "prosecution", when tied to the obligation to extradite in the context of *aut dedere au judicare* principle, is a modern replacement of the term "punishment" as an alleged offender may not be guilty. Therefore, it is fairly easy to conclude that ensuring prosecution does not necessarily mean that the prosecuted pilots shall be punished. *See* Commission IL, *The obligation to extradite or prosecute (aut dedere aut judicare) – Final Report of the International Law Commission*, 2014) 2 and Note 425.

In any event, prosecution can only be regulated by domestic law.[132] As such, the ICJ added in the decision above that the obligation to ensure prosecution should be read in conjunction with other pertinent provisions of the relevant multilateral treaties. Notably, it has also induced States to implement domestic law to criminalise specific actions to enable prosecution as "elements of a single conventional mechanism."[133] While Article 12 is formulated in a different manner, it may likewise be understood as implying the duty to establish domestic law regulating criminal liability, prosecution, and punishment of pilots.[134]

3.3.1.7 State practice as to the implementation and application of the obligations of Article 12 of the Chicago Convention (1944)

- *Types of State practice*

The obligations under Article 12 can be divided into the following categories:

- Implementation of flight and manoeuvre rules;
- Notification of differences;
- Reaction to amendments;
- Adoption of enforcement mechanisms.

The following section contains an analysis of State practice concerning the implementation of these obligations.

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132 For example, in the case of *Questions relating to the Obligation to Prosecute or Extradite (Belgium v. Senegal)* (ICJ), Senegal argues that "Belgium cannot dictate precisely how it should fulfil its commitments under the Convention, given that how a State fulfils an international obligation, particularly in a case where the State must take internal measures, is to a very large extent left to the discretion of that State." See, *Questions relating to the Obligation to Prosecute or Extradite (Belgium v. Senegal)* (ICJ) 422, 451 and 455. *See also* Chapter 2 of this research. It is also additionally possible to argue this based on certain international and regional conventions, such as the Tokyo Convention (1963) or the ECHR Article 7. Nevertheless, As pointed out by Boyle, such is valid as long as the matters relevant are governed only by national legislation. *See*, Boyle RP and Pulsifer R, 'The Tokyo Convention on Offenses and Certain Other Acts Committed on Board Aircraft' (1964) 30 Journal of Air Law and Commerce 305, 332.

133 *Questions relating to the Obligation to Prosecute or Extradite (Belgium v. Senegal)* (ICJ) 422, 455.

134 This approach aligns with the interpretation of the State oversight function made by Prof. Huang and Dr Ratajczyk. *See* Subsection on "Obligation on Contracting States in Section 3.3.1.3. In addition, jurisdictional questions are also relevant in international conventions outside the Chicago Convention (1944), concerning legal certainty across the border. *See*, ICAO, *International Conference on Air Law, Tokyo, August-September*, vol I: Minutes (1966), 35: *"The Roman principle 'nulla poena sine lege' was basic to the criminal laws or constitutions of many, if not all, States. In other words, a person might not be prosecuted or punished for an act if, at the time of such act, there was not a law providing that the act vas an offence against penal laws."* Specifically, the question still lies in how to prosecute or punish someone who committed a crime from one jurisdiction when the crime and punishment are not prescribed in another.

- *Implementation of flight and manoeuver rules and notification of differences from time to time*

The first undertaking required under Article 12 of the Chicago Convention (1944) pertains to the uniform implementation of flight and manoeuvre rules as prescribed in relevant ICAO Annexes to the greatest possible extent.[135] As discussed above, while States normally have a certain degree of flexibility to implement SARPs under Articles 37 and 38 of the Chicago Convention (1944), the obligation to implement and apply flight and manoeuvre rules set out in Article 12 of the Chicago Convention (1944) is a strict one. Nevertheless, deviations do exist.

In practice, it is an issue that information on the implementation and application of flight and manoeuvre rules and national deviations therein is not sufficiently shared among ICAO States. In 2009, Prof. Huang identified that States often do not notify ICAO of their differences.[136] This problem still persists. At least 45 per cent of Contracting States of the Chicago Convention (1944) do not have a system to identify and notify differences between SARPs and domestic legislation and practices.[137] Moreover, over 80% of the Contracting States still have issues publishing significant differences in their domestic Aeronautical Information Publication (AIP), at least in the last three trienniums.[138]

Consequently, it is unclear to which extent ICAO States have implemented the flight and manoeuvre rules or if there are any differences between domestic rules and practices, on the one hand, and ICAO flight and manoeuvre rules, on the other. Because of this uncertainty, pilots are likely unaware of the applicable flight and manoeuvrer rules in force, which is also unclear among States. As a corollary, that uncertain situation has an adverse impact on both the safety and legal certainty paradigms.

135 Section 3.3.1.3 of this research.

136 *See* Footnote 182 in Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009) 71.

137 ICAO, *Report on Universal Safety Oversight Audit Programme – CMA Results (1 January 2019 to 31 December 2021)* (2022) 31.

138 ICAO, *Report on Universal Safety Oversight Audit Programme – CMA Results (1 January 2019 to 31 December 2021)* (2022) 31; ICAO, *Report on Universal Safety Oversight Audit Programme – CMA Results (1 January 2016 to 31 December 2018)* (2019) 28; ICAO, *Report on Universal Safety Oversight Audit Programme – CMA Results (1 January 2013 to 31 December 2015)* (ICAO 2016) 25.

- *State responsibility for oversight*

In enhancing the level of effective implementation of SARPs, ensuring compliance is one of the preventive mechanisms to promote safety.[139] In other words, non-compliance with SARPs and other technical instruments of ICAO was believed to affect aviation safety.[140] The then President of the Council of ICAO stated that:

> "*Civil aviation is extremely safe. But when accidents occur, it is often because the rules and procedures outlined in the SARPs and related guidance material developed by ICAO are not adhered to properly*."[141]

It follows from this statement that compliance with SARPs is "the key to aviation safety."[142] These SARPs also include norms regulating the actions of pilots.

Under the USOAP,[143] States' oversight capabilities mandatorily become subject to ICAO's evaluation, focusing on eight areas.[144] The following elements reflect aspects of flight and manoeuvre rules compliance, which ICAO monitors in its audits, the USOAP.

- Legislation and regulation, as implemented under the provisions of the Chicago Convention (1944) and Annex 2;
- Personal licensing, assessing Annexes 1 and 19;
- Aircraft operations assessing Annexes 2, 6, 18, 19 and PANS-OPS;
- Air navigation services assessing Annexes 2, 3, 4, 5, 10, 11, 12, 15, 19 and PANS-ATM.

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139 *See* the following of this research: Section 1.7.1. on the evolution of safety; Section 3.3.1.3. on compliance; Section 2.2 on a new approach towards safety further explains the interrelation between compliance and safety management. *See also* ICAO, *A32-11 Establishment of an ICAO universal safety oversight audit programme* (1998); ICAO, *"Implementing SARPs – The key to Aviation Safety and Efficiency" The Theme for the 2000 Edition of International Civil Aviation Day* (2000); ICAO, *Assembly Resolution A35-6: Transition to a Comprehensive systems Approach for Audits in the ICAO Universal Safety Oversight Audit Programme (USOAP)* (2004); Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009) 43; Section 3.3.1.3 of this research.

140 Clearly, the pre-Chicago regime recognises it. See Section 3.2 of this study, which focuses on punishment and non-compliance.

141 ICAO, *Implementing SARPs – The Key to Aviation Safety and Efficiency" The Theme for the 2000 Edition of International Civil Aviation Day* (2000)

142 ICAO, *Implementing SARPs – The Key to Aviation Safety and Efficiency" The Theme for the 2000 Edition of International Civil Aviation Day* (2000)

143 *See* Section 1.8 on the role of international organisations.

144 The subjects of the State oversight function are primary aviation regulation, specific operating regulations, State civil aviation system and safety oversight functions, technical personnel qualification and training, technical guidance, tools and the provision of safety-critical information, licensing, certification, authorisation and approval obligations, surveillance obligations and the resolution of safety concerns.

In practice, the "respective capabilities to oversee the implementation" of flight and manoeuvre rules referred to in Article 12 also become subject to the ICAO's assessment, which is now transformed into the 'USOAP CMA'.[145]

In respect of the implementation of Standards laid down in ICAO Annex 2 (Rules of the Air) and the filing of differences to ICAO, the USOAP CMA presents eight questions regarding the implementation of Article 12. These questions are formulated as follows:

- *Does the primary aviation legislation provide for the enforcement of applicable legislation*?[146]
- *Has the civil aviation authority established an enforcement policy and associated procedures*?[147]
- *Has the State promulgated personnel licensing regulations to enable it to transpose the provisions of Annex 1*?[148]
- *Has the State promulgated aircraft operations regulations which transpose the provisions of Annex 6 Parts I, II, and III*?[149]
- *Does the State have provisions in its legislation or regulations making it mandatory for any civil aircraft under its registry or operated by its air operators to comply with interception orders from other States*?[150]
- *Has the State promulgated airworthiness regulations to transpose the airworthiness-related provisions of Annexes 6, 7, 8, 16, and 19*?[151]
- *Has the State promulgated primary aviation legislation in compliance, without exception, with the applicable provisions of Annex 2 on high seas airspace*?[152]
- *Has the State promulgated ANS specific operating regulations to transpose the provisions of the ANS-related Annexes into its own legislation*?[153]

From an ICAO perspective, these questions are relevant to the implementation of Article 12 of the Chicago Convention (1944).

In the analysis of Article 12 of the Chicago Convention (1944) in Section 3.3.1 of this research, it was argued that the implementation of Article 12 depends on a wider range of flight and manoeuvre rules than merely the Standards of ICAO Annex 2. As the above self-check questions prove, the "rules and regulations" referred to in the first sentence of Article 12 are

145 *See* Section 1.8.1 of this research. Since 2010, ICAO has implemented the continuous monitoring system approach towards USOAP, which is now called the 'USOAP CMA'. The USOAP CMA requires States to continuously check their competencies using protocol questions prepared by ICAO. *See* ICAO, *Assembly Resolution A37-5: The Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach* (2010).

146 Protocol Question No. 1.051

147 Protocol Question No. 1.055

148 Protocol Question No. 3.001

149 Protocol Question No. 4.001

150 Protocol Question No. 4.015

151 Protocol Question No. 5.001

152 Protocol Question No. 7.001

153 Protocol Question No. 7.009

understood to be SARPs laid down principally in Annex 2, but also Annexes 1, 6, 7, 8, 16, and 19.[154]

This extended scope of the flight and manoeuvre rules identified in these protocol questions clarifies the analysis of Article 12. Thus, the above questions also pertain to and define pilot licensing,[155] pilots' tasks for the operation of the aircraft,[156] and the role of pilots and actors in the safety management of international civil aviation.[157] These aspects are neither explicitly mentioned in Article 12 nor ICAO Annex 2 but present the logical understanding of ICAO concerning the scope of Article 12.

Section 3.4 of Chapter 3 elaborates further on the analysis of these Annexes.

3.3.2 Analysis of Article 26 of the Chicago Convention (1944)

3.3.2.1 Structure of the analysis of Article 26 of the Chicago Convention (1944)

Article 26 of the Chicago Convention (1944) is dedicated to the investigation of accidents. This provision is elaborated on in ICAO Annex 13 on accident and incident investigation. The provision reads as follows:

> "*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*."

Article 26 of the Chicago Convention (1944) provides that if an accident occurs, Contracting States are responsible for investigating it.[158] Prof. Milde asserts that Article 26 leaves more questions than clarifications. Innovations in international civil aviation moreover add complications to existing questions,[159] which the following subsections research.[160] If pilots' violations of flight and manoeuvrer rules cause an accident, Article 26 becomes applicable.

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154 Protocol Question No. 5.001

155 ICAO, *Annex 1 Personnel Licensing* (13th edn, 2020).

156 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022).

157 ICAO, *Annex 19 Safety Management* (2nd edn, 2016).

158 This means, in principle, technical investigations.

159 Milde M, 'Aircraft Accident Investigation in International Law'(1984) 9(1) Air and Space Law 61, 62.

160 Fiorita DM, 'The International Framework of Aircraft Accident Investigation – Contemporary Issues' (1994) 19 Annals of Air and Space Law 161, 161. An example of such is Article 83*bis* of the Chicago Convention (1944).

The following sections discuss the elements of Article 26, including its connection with ICAO Annex 13, as well as its interaction with Article 12 of the Chicago Convention (1944).

3.3.2.2 The first sentence of Article 26 of the Chicago Convention (1944)

The first sentence of Article 26 of the Chicago Convention (1944) establishes the obligation of States to institute an inquiry in case of an accident.[161] The first sentence of Article 26 deals specifically with the obligation to institute an inquiry for the State of Occurrence. This obligation is imposed under two cumulative conditions: *firstly*, when an accident has occurred in the territory of a Contracting State, and *secondly*, when the accident involves death or serious injury or indicates a technical defect in the aircraft or air navigation facilities.

The usage of the terms "accident investigation" and "inquiry" in Article 26 prompts a significant discussion. Article 26 consistently employs the term "inquiry" in its text, while its title has always been "accident investigation". This distinction dates to early discussions in 1947, while "inquiry" was also reflected in the title of ICAO Annex 13 for a certain period. In 1947, the relevant working group on aircraft accident investigation attempted to define the term "accident inquiry" as "all proceedings that may be required in order to determine the cause of an accident" and proposed to delete the term "investigation" from Annex 13. After reviewing it, the Air Navigation Commission objected to this proposal and made a clear distinction. According to the Air Navigation Commission, "inquiry" is an "all embracing term covering the gathering together of all the factual and relevant details of the accident, its presentation to the appropriate authority and any legal procedures that might follow arising out of this examination, up to the submission of the final report." In comparison, the investigation would be only part of the defined "inquiry," as investigation would be strictly limited to technical findings.[162]

Later, in 1966, more current definitions were adopted. *On the one hand*, the term "inquiry" was defined as the "process leading to the determination of the cause of an aircraft accident or incident, including the completion of the relevant report." [163] *On the other hand*, "investigation" was defined

161 First sentence of Article 26 of the Chicago Convention (1944): *"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."*

162 *See* Van Wijk AA, *Aircraft Accident Inquiry in the Netherlands – A Comparative Study* (PhD thesis, University of Amsterdam 1974) 268-269, and notes therein.

163 ICAO, *Annex 13 Aircraft Accident Inquiry* (2nd edn, 1966) ch 1.

separately as the organised gathering of "factual information related to an aircraft accident."[164]

Since 1976, the terminology used in ICAO Annex 13 has changed. The definition of "inquiry" was eliminated, and "investigation" was adopted as the new title of ICAO Annex 13. Captain Kane argues that this change reflects a growing trend to differentiate between the technical and judicial investigation, with the latter being referred to as an "inquiry."[165] The following section further explores this change of language,[166] as it aligns with ICAO's evolving perspective on potential judicial investigations.

However, despite Captain Kane's assertion, Article 26 of the Chicago Convention (1944) continues to refer to the obligation to institute *an inquiry* rather than *an investigation*. Although the definition of "inquiry" may no longer exist in ICAO Annex 13,[167] it seems to me that the text of Article 26 continues to imply a connection to potential judicial investigations. The following paragraphs delve deeper into this matter and offer further points for consideration.

The inquiry mentioned in Article 26 should be carried out in accordance with the procedures drawn up by ICAO, "as far as" domestic law permits.[168] However, Dr Van Wijk identifies a general trend in the 1970s wherein Contracting States ignored the influence of ICAO over its national accident investigations and conducted investigations only according to domestic law.[169]

Section 3.3.2.5. presents the current State practice in this respect.

3.3.2.3 The second sentence of Article 26

The second sentence of Article 26 imposes an obligation on the State of Occurrence to grant the State of Registry the opportunity to designate

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164 ICAO, *Annex 13 Aircraft Accident Inquiry* (2nd edn, 1966) ch 1.

165 Kane R, 'Accident Investigation and the Public Interest: A Pilot's View' 38(3) (1989) Zeitschrift fur Luft- und Weltraumrecht 3, 5.

166 *See* Section 3.4.2.1.

167 From the issuance of the 4th edition of the ICAO Annex 13, the definition of 'inquiry' does not exist. *See*, ICAO, *Annex 13 Aircraft Accident Investigation* (4th edn, 1976).

168 Chicago Convention (1944), art 26. "[I]ts law" in the text of Article 26 refers to the domestic law of each Contracting State.

169 Van Wijk AA, *Aircraft Accident Inquiry in the Netherlands – A Comparative Study* (PhD thesis, University of Amsterdam 1974) 275. *See also* Captain Kane R, 'Accident Investigation and the Public Interest: A Pilot's View' (1989) 38(3) Zeitschrift fur Luft- und Weltraumrecht 3, 5. Captain Kane defines this trend as the "supremacy of domestic laws" over ICAO SARPs.

observers for the investigation and to share the report and findings.[170] Consequently, when the State of Registry fulfils its obligation by prosecuting pilots for violations of flight and manoeuvre rules,[171] the State of Occurrence should also allow the State of Registry to appoint observers and facilitate the communication of the investigation report and findings.[172]

The State of Occurrence is principally tasked with the prosecution of the persons who were involved in the accident or incident. However, the State of Occurrence may engage in an agreement with another State involved with the accident, for instance, the State of registry of the aircraft or the State whose nationals have been significantly affected by the accident.

The purpose of the second sentence is found in the drafting history of the Chicago Convention (1944).[173] The US government's proposed draft provision elucidates that the aim of cooperation and facilitating the representation of the State of Registry or the Operator is to obtain comprehensive information regarding the cause of the accident.[174] Despite the differences in the current wording of Article 26 compared to the draft text, the underlying purpose remains unchanged.

A concrete example illustrating this point is the Asiana Airlines accident in San Francisco, in the US, on July 6, 2013.[175] In this case, the aircraft involved was registered in Korea, making it the State of Registry, while the US was the State of Occurrence, primarily responsible for the technical investigations. In the event of any violations amounting to criminal acts, Korea, as

170 Chicago Convention (1944), art 26: "…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." Prof. Milde refers to this as a central element of Article 26. *See* Milde M, 'Aircraft Accident Investigation in International Law' (1984) 9(1) Air and Space Law 61, 62.

171 *See* Section 3.3.1.6 of this research. In this case, investigations may not only be technical or judicial but also criminal, civil, or administrative in nature. However, the main concern is how all conditions would revolve when criminal proceedings are opted for.

172 There have been several Resolutions issued by the ICAO Assembly in terms of Article 26 to extend the States and parties to become observers and receive communication from the State of Registry only to include the State of manufacturers. However, as the analysis of Article 12 does not impose an obligation to prosecute on the State of Manufacturers, this study does not include the specific resolution in the analysis of Article 26. Please *see* ICAO, *Assembly Resolution A4-14: Examination of Article 26: Privileges and Obligations of Contracting States other than the State of Registry or the State of Occurrence with respect to Accident Investigation* (1950) and ICAO, *Assembly Resolution A14-27: Statement of Continuing Assembly Policies Related Specifically to Air Navigation As They Existed at the Commencement of the Fourteenth Session of the Assembly* (1962).

173 *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 1385.

174 *See* draft article 15 prepared by the US government in *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 559.

175 For the details of this case, please *see* Chapter 4 of this study.

the State of Registry, was responsible for ensuring the prosecution of the pilots involved. The US, as the State of Occurrence, was obliged to facilitate the participation of Korea by allowing their representatives to appoint an observer and share relevant details of the investigation. Consequently, the accident investigation board and the Ministry of Transport of Korea participated in the investigation as observers in the technical investigation. The accident investigation board and the Ministry of Transport of Korea provided information on the results of State oversight of the relevant airlines, which facilitated better fact-finding in the US. This example demonstrates the practical implementation of the obligations outlined in Article 26 of the Chicago Convention (1944).[176] However, the pilots were prosecuted neither in Korea nor in the US.

The obligation for technical investigation may also be transferred from one State to another, which has implications for prosecution. An example of such a transfer is the prosecution of offenders in the downing of MH17. While the State of Registry was Malaysia,[177] a joint investigative team was formed following Ukraine's request, as the State of Occurrence, for support from ICAO.[178] The Netherlands, as one of the "States who have lost nationals on MH17,"[179] joined this investigation. Later, in 2017, the formed joint investigation team decided to concentrate on "the prosecution and adjudication of crimes" concerning flight MH17 in the Netherlands instead of in Malaysia or Ukraine. Any investigations which may result in the prosecution of pilots may also be transferred in this manner.

3.3.2.4 Article 26 in conjunction with ICAO Annex 13

Article 26 must be read, besides in connection with the obligation to prosecute in Article 12 (see in this regard, further below at Section 3.4.2.), in conjunction with ICAO Annex 13. This Annex indeed confirms that Contracting States other than States of Registry and Occurrence may play a role in investigations.[180] If pilots violate flight and manoeuvre rules, and an accident or incident results from such a violation, ICAO Annex 13 governs

176 *See*, NTSB, *Descent Below Visual Glidepath and Impact With Seawall Asiana Airlines Flight 214 (NTSB/AAR-14/01, PB2014-105984)* (NTSB 2014) Appendixes, 148: "In accordance with the provisions of Annex 13 to the Convention on International Civil Aviation, the KARAIB participated in the investigation as the representative of the State of the Operator. Asiana Airlines and the KOCA participated as technical advisors to the KARAIB." The KARAIB refers to the "Republic of Korea Aviation and Railway Accident Investigation Board" and the KOKA refers to the "Republic of Korea Office of Civil Aviation." However, the pilots were not prosecuted in Korea or the US.

177 Its registry is 9M-MRD.

178 United Nations Security Council Resolution 2166 (2014).

179 United Nations Security Council, Resolution 2166 (2014)

180 ICAO, *Assembly Resolution A4-14: Examination of Article 26: Privileges and Obligations of Contracting States other than the State of Registry or the State of Occurrence with respect to Accident Investigation* (1950)

investigations if and in so far as domestic law has implemented the provisions of this Annex.

3.3.2.5 State Practice in relation to accident and incident investigation

Few State practices derived from the USOAP CMA regard Article 26 of the Chicago Convention (1944).[181] The self-assessment tool with protocol questions, which States may normally utilise to check their oversight capability,[182] does not include questions with respect to the implementation of this provision. The implementation of SARPs contained in ICAO Annex 13, however, raises many questions, which Chapter 4 of this research explores further.

As for the implementation of ICAO Annex 13 more generally, the USOAP CMA record of 13 October 2024 reflects that the average rate of effective implementation thereof in domestic legal systems remains at 54%.[183] The level of implementation is as low as 0%.[184] However, it is also as high as 100%.[185] There is, thus, a long way to go to achieve uniformity in accident investigations. As aviation is a cross-border, global undertaking, uniformity of rules not only enhances safety but also legal certainty for those who are involved with flying, in particular pilots. Low implementation, as such, gives rise to significant concerns in this regard.

3.3.3 Concluding remarks of Section 3.3

Section 3.3 of this study examined Articles 12 and 26 of the Chicago Convention (1944) separately. It is important, moreover, to establish their interrelationship. Article 12 not only strengthens the legal force of flight and manoeuvre rules found in various Annexes but also plays an essential role in governing the potential prosecution of individuals involved in accidents and incidents, notably pilots. Legal certainty for those involved with aviation as a cross-border undertaking requires foreseeability and accessibility of these regulations.

As demonstrated above, diverse features of the air law framework, however, mean that legal certainty therein is necessarily reduced. This holds

181 One of the State practices to refer to is whether the State of Registry is invited to join an investigation as a representative and observer.

182 *See,* Section 3.3.1.7 of this research.

183 ICAO, 'Safety Audit Results: USOAP interactive viewer' <https://www.icao.int/safety/pages/usoap-results.aspx> accessed 13 October 2024. This rate for accident investigation can be compared to other areas of implementation. Among the eight areas of USOAP, accident investigation has the lowest implementation level. Airworthiness holds the highest global average of the implementation level.

184 That is the case in Afghanistan.

185 Singapore implemented 100% of SARPs on ICAO Annex 13.

in the first place for the content of rules themselves, including issues with respect to their evolving content and binding force, the competence of States to deviate and the extent of their transposition – in good alignment with ICAO rules – into domestic law. In that last respect, the diffuse nature of the concept of 'violations' – which, as discussed above, has a broad connotation in air law, not to be equated automatically with a criminal offence – brings with it that it may not be clear if and how 'air law violations' have been transposed in national law also as *criminal offences*. Without such transposition, criminal prosecution is not possible. Differences between jurisdictions in this regard exacerbate this issue.

In the second place, the specific reasoning and approach underlying the obligation of States to initiate prosecution in the field of aviation remains somewhat unclear because of the language of Article 12 and agreements among States outside the air law regime. Additional exploration of relevant SARPs concerning flight and manoeuvre rules in greater detail and the manner in which they may or have been deployed in criminal prosecutions is necessary in this regard. This is featured below in Section 3.4.

Article 26 connects to ICAO Annex 13 on accident and incident investigation. Article 26 imposes an obligation to conduct an inquiry according to procedures contained in this Annex. Investigations, in this sense, need not take the form of criminal prosecution. Importantly, however, they can result in criminal proceedings, as well as those against pilots. As such, this regime governs criminal proceedings, which can lead to criminal liability. Therein lies the connection with Article 26: where Article 12 requires prosecution, Article 26 and Annex 13 influence how that can take place. Given the impact that the Article 12 and Annex 13 regime can have on (the manner of) criminal prosecution, it is also necessary to thoroughly analyse the pertinent SARPs formulated in ICAO Annex 13.

In addition to the analysis of Articles 12 and 26 of the Chicago Convention (1944), the previous sections expressed concerns with respect to the comprehensiveness of these provisions in addressing the changing dynamics encompassing mainly two paradigms: safety and legal certainty. The Chicago Convention (1944) seems to support the prosecution of persons who violate safety norms.[186] As emphasised above, however, it can be difficult to isolate which types of 'violations' can actually be subject to criminal prosecution. Ideally, greater clarity with respect to all issues identified above is to be found in the ICAO Annexes. As such, the pertinent Annexes are analysed in greater detail below. In doing so, an important preliminary consideration must be to emphasise that the content thereof is evolutive. While the Chicago Convention (1944) remains unchanged, ICAO Annexes do not.

186 *See* Section 3.3.1 of this research.

This evolution comports with the understanding of safety transformation and the impact on legal certainty.[187]

3.4 Standards and Recommended Practices (SARPs)

3.4.1 Flight and manoeuvre rules

3.4.1.1 Flight and manoeuvre rules for pilots

Section 3.3 concluded that pilots may be prosecuted if they violate flight and manoeuvre rules as stipulated in Article 12 of the Chicago Convention (1944). ICAO Annexes 1, 2, 6, and 11 contain the basic rules for the operation of the navigation of the aircraft.[188]

The following sections examine the basic rules of said Annexes.

3.4.1.2 ICAO Annex 1

- *Personnel licensing*

First adopted in 1948,[189] ICAO Annex 1 on Personnel Licensing is one of the first Annexes produced as a result of the Chicago Conference held in 1944.[190] Annex 1 details the requirements for applicants to become licensed pilots; it draws up global standards for pilots' competence in aircraft operation.[191]

Pursuant to ICAO Annex 1, the licensing authority of a Contracting State is responsible for assessing the qualifications of pilot candidates to become licensed. They may do so when candidates prove their knowledge and competence to comply with flight and manoeuvre rules.[192]

The SARPs of Annex 1 must also be implemented in the legislation of ICAO States, but States do have some discretionary room in implementation. If and to what extent ICAO States have such discretionary power depends on the language employed in the relevant SARPs and whether such States have

187 *See* Section 1.7 of this research.
188 Section 3.3.1.3 of this research.
189 ICAO, *Annex 1 Personnel Licensing* (1st edn, 1948).
190 *See also*, Chicago Convention (1944), art 37(d).
191 Under Article 32 of the Chicago Convention (1944), the State of Registry shall issue or render the licenses of pilots. Notably, however, the text of Article 32 refers to "certificate of competency and licenses" rather than simply "license." According to Prof. Huang, in ICAO practice, "license" encompasses both "certificate of competency and licenses". *See* Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009) 45 note 92.
192 *See* ICAO, *Annex 1 Personnel Licensing* (13th edn, 2020) Definition.

notified differences between their national provisions and ICAO SARPs pursuant to Article 38 of the Chicago Convention (1944).[193]

Pilots can indeed violate SARPs contained in ICAO Annex 1 as implemented. For example, providing false information or flying without the proper certification could constitute a general criminal offence or a specific air law violation, even if the infraction does not directly result in an accident or incident. [194] Such actions might be prosecuted as fraud or, in the case of an accident, could be included in the indictment for causing death or injury, whether under general criminal law or specific air law offences. A hypothetical scenario to consider is whether a pilot could be charged for causing harm while knowingly using a fraudulently obtained license. This raises the question of whether pilots are aware that such legal consequences could arise as a result of fraudulent licensing.

The implementation of ICAO Annex 1 into domestic legal systems is crucial, as it establishes a specialised regulatory framework for pilots, imposing high standards of care. The SARPs laid down in Annex 1 define the uniformly required competencies for pilots. They intend to ensure a standardised level of proficiency necessary for the safe operation of aircraft when applicants become licensed-pilots.[195] This aspect is further examined through the survey presented in Chapter 5.

3.4.1.3 ICAO Annex 2

- *Rules of the Air*

ICAO Annex 2 contains traffic rules in the air. My earlier analysis concludes that the scope of "rules relating to the flight and maneuver of aircraft," as referred to in Article 12 of the Chicago Convention (1944), extends beyond the Standards in ICAO Annex 2 alone. This scope includes aspects addressed in ICAO Annexes 6 and 11, which are discussed in the following sections.[196]

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193 As discussed in sections 1.5.2.4 till 1.5.2.7 of Chapter 1.

194 See, *U.S. v. McEnry*, 659 F.3d 893, 11 Cal. Daily Op. Serv. 12802, 2011 Daily Journal D.A.R. 15224 (9th Cir. 2011). Michael McEnry was convicted of flying without a valid pilot's certificate. He appealed his sentence, arguing that the wrong sentencing guideline was applied. The court had sentenced him based on reckless endangerment of an aircraft, but McEnry argued for a different guideline related to fraud. The Ninth Circuit vacated his sentence, finding procedural errors, and remanded the case for resentencing under a more appropriate guideline.

195 *See*, Section 1.1.2 of this research. *See also*, *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 704: *"The minimum standards of competence of certain classes of flight personnel, for example, certainly ought to be standardized in view of possible conflict between international operations and flying of a purely internal nature."*

196 Note under Standard 2.1.1 in ICAO, *Annex 2 Rules of the Air* (10th edn, 2005), 2-1.

ICAO Annex 2 also encompasses rules for the operation of aircraft in international airspace.[197] The SARPs of Annex 2 apply without discrimination as to the nationality of the aircraft.[198]

- *Territorial application of the Rules of the Air*

Title 2.1 of ICAO Annex 2 reaffirms the wording of Article 12 of the Chicago Convention (1944).[199] Domestically implemented Rules of the Air may vary per State, especially in light of Standard 2.1.1. This Standard confirms that an aircraft must be operated in accordance with the Rules of the Air of the State of Registry of the aircraft, as long as they do not conflict with the air navigation rules of the State being overflown.

Standard 2.1.1 recognises the potential conflict of rules and resolves issues in that regard. In case of inconsistency, the air navigation rules of the air of that State prevail. Therefore, the proper interpretation of Standard 2.1.1 would be that pilots operate the aircraft according to the rules of the air where the aircraft is operated. However, the question may be if this resolution is sufficient from the perspective of the strict legal certainty requirements under criminal law. While safety requires a uniform and strict implementation of this Standard, legal certainty is affected by the fact that States may implement SARPs differently or not implement them, as explained above.

- *Compliance with the Rules of the Air in Standard 2.2*

ICAO Annex 2 details technical provisions about governing actions and limitations during the course of a flight, reflected in the visual and instrument flight rules. Standard 2.2 of ICAO Annex 2 applies to aircraft in flight or within the movement area of an aerodrome.[200]

Grammatically, the general, visual, and instrument flight rules do not explicitly apply to pilots but rather apply to the "operation of aircraft."[201] However, given the nature of pilots' responsibilities and the inherent connection between their actions and the operation of the aircraft, it is reasonable to interpret these rules as directly and exclusively applicable to pilots.

197 *See* Section 3.3.1.3 of this research.

198 *See* Section 3.3.1.3 of this research, which refers to Article 11 of the Chicago Convention (1944).

199 Territorial application of the rules of the air

200 "The operation of an aircraft either in flight or on the movement area of an aerodrome shall be in compliance with the general rules and, in addition, when in flight, either with: 1) the visual flight rules; or 2) the instrument flight rules." An aerodrome means a "defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft." Therefore, the scope of the term 'aerodrome' is broader than the term 'airport', which is designed for fixed-wing aircraft. *See* ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Definition.

201 For the flight rules, *see* ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) chs 3, 4, and 5.

Pilots, as licensed professionals, undergo training to acquire knowledge and skills of these Rules of the Air as implemented in the domestic legal system.[202]

As outlined in Articles 11 and 12 of the Chicago Convention (1944), and in accordance with the laws of the State of Registry and the State being overflown, these compliance requirements for pilots consist of three types of rules: general flight rules,[203] visual flight rules,[204] and instrument flight rules.[205]

- *General flight rules applicable to all pilots*

The interpretation of Article 12 of the Chicago Convention (1944) is closely intertwined with the general Rules of the Air of ICAO Annex 2.[206] For instance, Standard 3.1.1 stipulates that pilots shall not *negligently or recklessly* operate the aircraft.[207]

This crucial provision raises a fundamental question of interpretation and foreseeability under legal certainty. Negligence and recklessness in criminal law are interpreted differently in the various jurisdictions. As ICAO has no mandate to define criminal standards such as intentional behaviour, wilful misconduct, negligence and reckless conduct as employed in national law, the determination of pilots' conduct must be governed by the understanding of these and other concepts under domestic criminal law. The role

202 *See* Section 3.4.1.2 of this research on ICAO Annex 1 Personal Licensing. *See also* Standards 2.3.1.2, 2.4.1.2, and 2.6.1.2 of ICAO Annex 2, which standardise one of the licensing requirements to be knowledge of Rules of the Air for *all* pilot candidates: "The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of *[relevant licence title]* and appropriate to the category of aircraft intended to be included in the licence… ." [*italics added* JC]

203 Once an aircraft starts moving, the operation of the aircraft should be in accordance with the general rules in Chapter 3 in ICAO, *Annex 2 Rules of the Air* (10th edn, 2005).

204 Visual flight rules are applied when weather conditions allow for adequate visibility. These rules serve as the fundamental regulations in general aviation and are commonly learned by private pilot license holders. They provide guidelines for navigating and operating the aircraft based on external visual references. See ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) ch 4.

205 When visibility is compromised due to weather conditions, all pilots are required to operate under instrument flight rules. This necessitates the use of navigation instruments for guidance. Even when visibility is granted, During instrument flight, pilots rely on onboard instruments and systems to maintain situational awareness and navigate safely. In controlled airspace, pilots also receive instructions and guidance from air traffic controllers to ensure proper separation from other aircraft. *See* ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) ch 5. Most commercial aviation requires the instrument flight rating for pilots as the instrument landing system which increases the precision of landing.

206 ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) ch 3.

207 This was one of the reasons that the conflict of interpretation was raised. *See* Section 4.2.4.2.

played by Just Culture,[208] which also refers to such subjective concepts, may create further uncertainty in this regard, even if it promotes safety and transparency.

- *The unique position of the pilot-in-command (PIC)*[209]

Title 2.3 of ICAO Annex 2 clarifies the somewhat ambiguous language found in Standard 2.2, providing that the "operation of the aircraft" shall comply with the Rules of the Air. [210]

Title 2.3 explicitly assigns the responsibility for compliance to the pilot-in-command (PIC).[211] This explicit assignment is highlighted in three Standards of ICAO Annex 2.[212] Evidently, ICAO Annex 2 expects the pilot-in-command to know the Rules of the Air and other information for the safe operation of the aircraft, which may include domestically implemented flight and manoeuvre rules, as meant under Article 12 of the Chicago Convention (1944). These Standards affirm the final decision-making authority vested in the PIC, specifically with respect to compliance or non-compliance with the localised flight and manoeuvre rules in situations which may warrant such non-compliance. Compliance must be assessed on an *ad hoc* basis considering the ultimate discretionary powers of the PIC.

In the context of prosecution, Standards 2.3.1 and 2.4 also raise significant questions. Standard 2.3.1 emphasises the PIC's duty to ensure compliance

208 Section 1.4.5 of this research.

209 Given that the responsibility for compliance with the Rules of the Air specified in ICAO Annex 2 rests with the PIC, flight crew members, other than pilots, may not be criminally liable for non-compliance with the Rules of the Air of ICAO Annex 2 or domestically implemented rules of the air.

210 ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Title 2.3 – Responsibility for compliance with the rules of the air.

211 ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Standard 2.3.1: "The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety."

212 Standard 2.3.1 of *ICAO Annex 2*: "The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety." And Standard 2.3.2 of ICAO Annex 2: "Before beginning a flight, the pilot-in-command of an aircraft shall become familiar with all available information appropriate to the intended operation…" Standard 2.4: "The pilot-in-command of an aircraft shall have final authority as to the disposition of the aircraft while in command. "ICAO, *Annex 2 Rules of the Air* (10th edn, 2005). *See also* Kronlachner A, *The Legal Status of the Pilot-in-Command* (PhD thesis, Johannes Kepler University Linz 2022) 120.

with the applicable Rules of the Air.[213] An exception is made for cases where deviation from these rules is deemed "absolutely necessary" for the safety of the operation of the aircraft, confirming the PIC's discretionary powers in this respect. However, the level of permissible exercise of such powers remains vague, as the PIC's decisions have to be made on an *ad hoc basis*. To gain further clarity on the 'absolute necessity in the interest of safety',it is useful to analyse Article 8 of the Tokyo Convention (1963),[214] emphasising the importance of understanding the meaning and margin under Standard 2.3.1. While the Tokyo Convention (1969) is a 'security' convention, the connotation of the protection of safety remains, as Section 1.7.2 of this research demonstrates.

Research of the historical records of the Tokyo Convention (1963) reveals considerations of subjective and objective criteria in the expression "reasonable grounds" and "reasonable measures" with regard to the authority of the PIC.[215] This decision is determined by "reasonable" belief and whether or not action may be deemed "necessary" to ensure the safety of the aircraft. Legal authorities vary in whether these decisions should be approached from a subjective or objective perspective.[216] As approaches differ depending on the jurisdiction, the effectiveness of these standards in practice for pilots can be problematic. The same variability can be at issue in other Standards.

213 ICAO, *Annex 2 Rules of the Air* (10th edn, 2005), Standard 2.3.1 of *ICAO Annex 2*: "The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety."; Standard 2.3.2: "Before beginning a flight, the pilot-in-command of an aircraft shall become familiar with all available information appropriate to the intended operation…"; Standard 2.4: "The pilot-in-command of an aircraft shall have final authority as to the disposition of the aircraft while in command. "*See also* Kronlachner A, *The Legal Status of the Pilot-in-Command* (PhD thesis, Johannes Kepler University Linz 2022) 120.

214 Tokyo Convention (1969), art 6(1)(a): "The aircraft commander may, when he has *reasonable grounds to believe* that a person has committed, or is about to commit, on board the aircraft, an offence or act contemplated in Article 1, sentence 1, impose upon such person reasonable measures including restraint which are necessary: a) to protect the safety of the aircraft, or of persons or property therein;…"[italics added JC]

215 *International Conference on Air Law, Tokyo, August-September*, vol I: Minutes (1966) 153.

216 *International Conference on Air Law, Tokyo, August-September*, vol I: Minutes (1966) 147.

3.4.1.4 ICAO Annex 6

- *Operation of the aircraft*

Rules with respect to the operation of the aircraft are governed by ICAO Annex 6,[217] which sets forth the "criteria for safe operating practices."[218] Compared to ICAO Annex 2, which primarily focuses on the Rules of the Air in relation to the technical piloting of an aircraft,[219] ICAO Annex 6 addresses the conduct of authorised operators like an airline and the interaction of various stakeholders, including pilots, other flight crew members, and air traffic controllers during aviation operations. ICAO Annex 6 thus also dictates the behaviour of pilots and delineates the responsibilities of States in supervising such behaviour in order to ensure aviation safety.[220]

ICAO Annex 6 explicitly covers the behaviour of the "operator" of the aircraft, alongside the PIC. An operator is defined as an individual, organisation, or enterprise involved in or providing aircraft operations.[221] Hence, in most cases, the operator of the aircraft is an airline. This definition acknowledges that the PIC may also assume the role of an operator. Hence, when assumed to be operators, PICs must also adhere to the prescribed rules and practices under ICAO Annex 6. By involving operators in the compliance process, ICAO Annex 6 significantly contributes to enhancing the safety management function through organisational factors for aviation safety.[222]

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217 Initially, ICAO Annex 6 focused solely on international commercial air transport using airplanes, as general aviation and helicopter operations were uncommon in the 1940s. However, as general aviation expanded and helicopter operations developed, the need for standardized practices in these areas became evident. To prioritise safety progressively incorporated these previously excluded operations into Annex 6. Consequently, additional parts were introduced after Part I to address the specific operational needs of international general aviation airplanes and helicopter operations. This expansion reflects ICAO's evolving mandate to regulate these sectors. For example, Assembly Resolution A15-15, passed in 1965, acknowledged the needs of international general aviation in relation to ICAO's technical activities. Furthermore, the Foreword of Annex 6, Part II (2022) highlights this inclusion. Similarly, Part III extends regulation to helicopter operations, as noted in its Foreword. *See,* ICAO, *Assembly Resolution A15-15: Consideration of the Needs of International General Aviation in Relation to the Scope of ICAO Technical Activities* (1965); ICAO, *Annex 6 Operation of Aircraft*, vol Part II – *International General Aviation – Aeroplanes* (11th edn, 2022), Foreword; ICAO, *Annex 6 Operation of Aircraft*, vol Part III – *International Operations – Helicopters* (11th edn, 2022), Foreword.

218 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022), Foreword. Prof. Huang interprets the purpose of Annex 6 as providing "regulations which address the interface between the personnel, the aircraft and the rules in real time and space" and providing "criteria as to how qualified personnel, governed by certain rules, must control aircraft in given situations." *See also* Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009) 48.

219 *See* Section 3.4.1.3 of this research.

220 *See also*, Huang J, *Aviation Safety and ICAO* (PhD thesis, Leiden University 2009) 48.

221 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022), Definition.

222 *See* Sections 2 and 3.3.1.3 of this research.

However, it also means that the behaviour of pilots is also governed by further rules directed towards "operators."

The following subsections explore these dilemmas.

- *Responsibility for operational control*

The term 'operational control' as laid down in ICAO Annex 6 is essential. This term encompasses authority over critical aspects of a flight, including its "initiation, continuation, diversion, or termination."[223] That authority is wielded with the primary objective of ensuring not only the safety of the aircraft but also flight regularity and efficiency.[224] The operator of the aircraft in commercial aviation, that is, mainly the airline, must ensure its operational control, including, for instance, that all employees "when abroad know that they must comply with the laws, regulations and procedures of those States in which operations are conducted."[225]

When scrutinising the definition of "operational control" in conjunction with ICAO Annex 2 Standard 2.4 on the final responsibility of the PIC,[226] it follows that, as a *general* principle, the PIC bears the ultimate responsibility for operational control. This principle underscores the PIC's overarching obligation to be involved in the exercise of operational control, based on the duty of technical piloting of the flight and ensuring the safety and efficiency of the aircraft unless certain factors impede the PIC's ability to do so.[227]

This differentiation in capacities in which the PIC may be subject to diverse duties is even more articulated when comparing general and commercial aviation. In the realm of general aviation,[228] The PIC is obligated to conform to pertinent rules and to possess a comprehensive understanding of responsibilities in that capacity as PIC and as an operator.[229] In the domain of international commercial air transport and international helicopter operations, it is the operator who is responsible for ensuring that their personnel,

223 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022), Definition.

224 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022), Definition.

225 See, ICAO, *Annex 6 Operation of Aircraft* vol Part I – International Commercial Air Transport – Aeroplanes (11th edn, 2018) Standard 3.1.1.

226 *See also,* ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Standard 2.3.1 and Section 3.4.1.3 of this research on the special position of the PIC.

227 For instance, force majeure can be the reason for the pilot not to have operational control.

228 General aviation means an "aircraft operation other than a commercial air transport operation or an aerial work operation." *See* ICAO, Annex 6 – Operation of Aircraft (12th edn, 2022) Definition and above.

229 ICAO, *Annex 6 Operation of Aircraft*, vol Part II – International General Aviation – Aeroplanes (11th edn, 2022) Standards 2.1.1.1 and 2.1.1.2.

including pilots, possess the necessary knowledge of the regulations and adhere to them, even if operational control may be delegated.[230]

- *Responsibility of the operators*

Moreover, ICAO Annex 6 introduces measures allowing the State of the Operator to allocate operators with a responsibility for training pilots.[231] In other words, in the case of the commercial operators of aircraft – airlines -, pilots rely on the training of the airlines and, hence, also the knowledge of flight and manoeuvre rules airlines provide as part of the training.[232]

- *Specific reference to the pilot-in-command (PIC)*

Standards outlined in ICAO Annex 6 exhibit a close connection with the obligations drawn up in ICAO Annex 2, with specific reference to those resting on the PIC. This relationship becomes particularly evident in terms of the level of deference provided to the PIC. An example is one of the obligations stipulated in ICAO Annex 6, which pertains to prompt notifications of "violation of local regulations or procedures" by the PIC. [233] This Standard 3.1.6 of ICAO Annex 6 confines the scope of this obligation to an "emergency situation."[234] However, this is generally defined broadly as any situation endangering the safety of the aircraft, even without an accident or incident.

When examining this standard alongside the asserted responsibility and authority of PIC in ICAO Annex 2,[235] something becomes apparent.

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230 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022) Standards 3.1.1 and 3.1.2; ICAO, *Annex 6 Operation of Aircraft*, vol Part III – International Operations – Helicopters (11th edn, 2022) Standards 1.1.1 and 1.1.4.

231 *See*, for instance, ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022) Title 4.2 (Operational certification and supervision).

232 *See*, for instance, ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022) Title 4.2.4, in particular, Standard 4.2.4.1: "The operator shall ensure that all operations personnel are properly instructed in their particular duties and responsibilities and the relationship of such duties to the operation as a whole."

233 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022) Standard 3.1.6. "If an emergency situation which endangers the safety of the aeroplane or persons necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall notify the appropriate local authority without delay. If required by the State in which the incident occurs, the pilot-in-command shall submit a report on any such violation to the appropriate authority of such State; in that event, the pilot-in-command shall also submit a copy of it to the State of the Operator. Such reports shall be submitted as soon as possible and normally within ten days."

234 ICAO, *Annex 6 Operation of Aircraft*, vol Part I – International Commercial Air Transport – Aeroplanes (12th edn, 2022) Standard 3.1.6.

235 ICAO, *Annex 2 Rules of the Air* (10th edn, 2005) Standards 2.3 and 2.4. *See also* Section 3.4.1.3 of this research.

Even when violations are deemed "absolutely necessary in the interest of safety,"[236] pilots must report the violations.

The duty of notification introduces a complication to the potential criminal liability of pilots. This obligation vested with the PIC can inherently and essentially serve not only as a monitoring tool for compliance but also as an instrument for States to undertake prosecution.[237] ICAO Annexes 2 and 6 refrain from explicitly stating that notifications may trigger prosecution.

However, according to Article 12 of the Chicago Convention (1944), States are obliged to ensure prosecution. Hence, States must decide on the existence of an emergency situation. If a State decides that an emergency situation is not at issue, the PIC is obliged to draw up a report on that situation, and this information may thus lead to criminal prosecution.

- *Transfer of the obligations of the State of the Operator to those of the State of Registry*

As articulated in Article 83*bis* of the Chicago Convention (1944),[238] the State of Registry and the State of the Operator of an aircraft may differ. In such instances, the obligations stipulated under Article 12 of the Chicago Convention (1944) may be transferred from the State of the Registry to the State of the Operator pursuant to an international agreement between the two States.[239] Subsequently, the State of the Operator shall ensure prosecution in case of violations of localised flight and manoeuvre rules. This brings with it that the (deviant) rules of yet another jurisdiction may thus be involved in investigations, potentially leading to the prosecution of pilots. It must be remembered in this light that as Article 12 of the Chicago Convention (1944) refers to "[e]ach contracting State", which is entitled to prosecute persons who violate air navigation rules, the State in whose airspace the flight is operated is also entitled to prosecute such persons. Also, practically, the State affected the most by the violations may also institute the prosecution.[240]

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236 *See* Subsection 3.4.1.3 of this research discussing Standard 2.3.1 in ICAO Annex 2.

237 This part are to be discussed in the context of ICAO Annex 19. See Section 3.4.2.2.

238 Chicago Convention (1944), art 83bis (*Transfer of certain functions and duties):* "Notwithstanding the provisions of Articles 12, 30, 31 and 32a, when an aircraft registered in a contracting State is operated pursuant to an agreement for the lease, charter or interchange of the aircraft or any similar arrangement by an operator who has his principal place of business or, if he has no such place of business, his permanent residence in another contracting State, the State of registry may, by agreement with such other State, transfer to it all or part of its functions and duties as State of registry in respect of that aircraft under Articles 12, 30, 31 and 32a. The State of registry shall be relieved of responsibility in respect of the functions and duties transferred."

239 Section 3.3.1.3 of this research.

240 Section 3.3.2 of this research.

Illustratively, in the context of international commercial air transport, a comprehensive chain of obligations emerges with respect to the enforcement of flight and manoeuvre rules in accordance with Articles 11 and 12 of the Chicago Convention (1944). This chain interconnects pilots, the airline as an operator,[241] the State of Registry and the State of the Operator. Each of those actors plays an essential role in ensuring the prosecution of pilots and determination of criminal liability in the event of violations amounting to criminal offences, which emphasises their correlation in terms of establishing criminal liability of pilots. While that correlation may differ in accordance with the adoption, or lack thereof, of applicable SARPs and the facts and circumstances of the situation, it is important, from the perspective of the legal certainty paradigm, to assert its existence. Notably, it is questionable whether pilots will be aware of transfers of obligations of the kind meant here.

3.4.1.5 ICAO Annex 11

- *Air traffic services*

ICAO Annex 11 provides SARPs on air traffic services. ICAO Annex 11 covers the "establishment of airspace, units, and services necessary to promote a safe, orderly and expeditious flow of air traffic,"[242] and the prevention of collisions between aircraft and collisions in the manoeuvring areas on the ground,[243] which is part of air traffic control services.[244] Air traffic services form a dimension of the flight and manoeuvre of aircraft, which Article 12 of the Chicago Convention (1944) alludes to. [245]

The role of ICAO Annex 11 is related to ICAO Annex 2, which governs the Rules of the Air. ICAO Annex 11 claims that it shares the same purpose as ICAO Annex 2, which is "to ensure that flying on international air routes is carried out under uniform conditions designed to improve the safety and efficiency of air operation,"[246] with the support of supplementary materials such as PANS-Air Traffic Management (ATM).[247]

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241 In the context of safety management, an airline is an organisational factor attributing to aviation safety. *See* Section 2.2.5.

242 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Foreword and Standard 2.2. which prescribes the objectives of the air traffic services.

243 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Definition – Air Traffic control service

244 Ibid (ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Definition – Air Traffic control service). Each Contracting State is responsible for providing air traffic services under its jurisdiction and is supposed to designate an authority to provide such services. *See* ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Standards 2.1.1 and 2.1.3.

245 ICAO, *Annex 11 Air Traffic Services* (15th ed, 2018) Definition of Air Traffic: "[A]ll aircraft in flight or operating on the manoeuvring area of an aerodrome"

246 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Foreword and Standard 2.2. prescribing the objectives of the air traffic services.

247 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Foreword.

The operation of air traffic services is critical for pilots' operations. They are designed to substantially avoid accidents and incidents by influencing pilots' behaviours. However, these services do not necessarily always assist pilots in avoiding violations of flight and manoeuvre rules. A complex combination of factors and actors can contribute to the cause of accidents and incidents, involving not only the behaviour of pilots but also that of air traffic controllers and operators of airports. Moreover, the responsibility of States may be at stake when ICAO SARPs and other ICAO rules have not been implemented properly in the State in which the accident or incident has occurred or governmental officials have not taken sufficiently convincing action to avoid the accident or incident.[248] Given the complexity that may be at issue and the multiplicity of factors that may have contributed to accidents, it may be difficult to discern the role played therein by pilots and, therewith, their potential criminal liability.

Finally, the manufacturer of the aircraft or its component parts may also be responsible for accidents (and be prosecuted). In the *Überlingen* mid-air collision case of 2002, the Supreme Court of Spain found the manufacturers partially liable for the damages caused by the collision avoidance system, which provided different advice than the air traffic control, which is also meant to assist the pilots' decisions.[249] Although civil liability is examined differently than criminal liability, this judgment further demonstrates how it may be difficult to isolate pilots' actions from all other factors within the international civil aviation system.

- *Flight information services and the pilot-in-command (PIC)*

The management of Air Traffic Services in ICAO Annex 11 includes "flight information service," which is a critical interface for pilot interaction with the air traffic controllers.[250] The provision of such flight information service involves pilots receiving advice for the safety of the flight and reporting the flight's location to the unit responsible for delivering flight information

248 There are two examples: the Linate Airport crash in 2001 and *Überlingen* mid-air collision in 2002. In the Linate Airport crash, two aircraft collided where the relevant accident investigation report contained considerations on pilots behaviours as the cause of accidents, but emphasised the potential role of the implementation status of the relevant SARPs to assist pilots. In the case of the Überlingen mid-air collision, the imminent causes of the accident involved the behaviour of the air traffic controller, where the inadequate implementation of the ICAO procedures was also considered as the systemic cause of the accident. *See*, Agenzia Nazionale Per LA Sicurezza Del Volo, *Final Report – Accident Involved Aircraft Boeing MD-87, registration SE-DMA and CESSNA 252-A, registration D-IEVX, Milano Linate airport, October 8 2001*, 2004) and German Federal Bureau of Aircraft Accidents Investigation, *Investigation Report (Accident, 1 July 2002, (near) Ueberlingen/Lake of Constance/Germany)* (2004)

249 *See*, Mendes de Leon PMJ, *Introduction to Air Law* (11th edn, Wolters Kluwer 2022) 365 and 445.

250 Flight information service means a "service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights." *See* ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Definition. *See also* Standard 2.3.2. in the same Annex, which repeats the definition as an objective of "flight operation service."

service.[251] The purpose of the flight information service extends beyond the immediate flight environment,[252] as it includes "any other information likely to affect safety,"[253] such as collision hazards.[254] Pilots can make an informed decision based on the flight information provided.

However, even though the flight information service means to support pilots to ensure safety,[255] ICAO Annex 2 dictates that the final responsibility for the safe operation of the aircraft still rests with the PIC.[256] The Note to Standard 4.1.1 explicitly reiterates that principle as follows:

> "*Flight information service does not relieve the pilot-in-command of an aircraft of any responsibilities and the pilot-in-command has to make the final decision regarding any suggested alternation of flight plan*."[257]

Hence, if the flight information service asks a PIC to make an unsafe decision and or violate the rules of the air, and that request leads to an accident or incident, compliance with the said request may not help the PIC in his or her defence when being prosecuted.

In addition, it seems to me that the quoted note to Standard 4.1.1 reaffirms that the PIC holds not only the final but also rather subjective.[258] That fol-

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251 *See* multiple Standards referring to the position reporting obligation, such as Standard 4.9 in ICAO, *Annex 2 Rules of the Air* (10th edn, 2005).

252 Examples of such is abrupt meteorological conditions, volcanic eruptions, changes in availabilities of radio navigation services, or changed conditions of the ground facilities. *See* ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Standard 4.2.1.

253 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Standard 4.2.1.

254 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Standard 4.2.2.

255 ICAO, *Annex 11 Air Traffic Services* (15th edn, 2018) Standard 4.2.1.

256 *See* Sections on responsibilities and duties of the PIC under ICAO Annexes 2 and 6 in Sections 3.4.1.3 and 3.4.1.4 of this research.

257 Notes contained in Annexes are the material approved by the Council "where appropriate, to give factual information or references bearing on the Standards or Recommended Practices in question, but not constituting part of the Standards or Recommended Practices."

258 Prof. Matte opines the "sole and final authority" of the PIC. Following the opinion of Prof. Matte, Dr Abeyratne suggests that a "prima facie responsibility" is generally accepted. According to Captain Geut, the then air laws of the Netherlands, UK, USA, and New Zealand postulated such in 1988. According to Dr Kronlachner in 2022, the EU also supported the final authority of the PIC. *See* Matte NM, *The International Legal Status of the Aircraft Commander* (The Carlswell Company Limited / Pedon 1975) 44 and 46; Abeyratne R, 'Negligence of the Aircraft Commander and Bad Airmanship – New Frontiers' (1987) 12(1) Air and Space Law 3, 4; Geut H, 'The Law: The pilot and the Air Traffic Controller – Division of Responsibilities' (1988) 13(6) Air and Space Law 256, 257; Kronlachner A, *The Legal Status of the Pilot-in-Command* (PhD thesis, Johannes Kepler University Linz 2022) 120. *See also* the quote of Dr Kamminga on the accident report of the accident to Viking G-AHPN on 31 October 1950 for a landing under unfavourable weather conditions, which was considered imprudent at Kamminga MS, *The Aircraft Commander in Commercial Air Transportation* (Martinus Nijhoff 1953) 61: "…I do not think it necessary to recommend any change in the existing system by which the pilot is ultimately responsible for the decision whether or not to divert. Indeed, I think that if the decision whether or not to land was taken from him, the pilot might be encouraged to attempt a landing in all cases in which he was not instructed from the ground to divert."

lows from the PIC's authority, which may overrule any advice from the air traffic service providers for the safe flight and manoeuvring of an aircraft based on their own knowledge and risk and safety assessments.[259]

3.4.2 Prosecution in relation to safety management

3.4.2.1 ICAO Annex 13

- *Accident and incident investigations*

ICAO Annex 13 lays down substantive norms and procedures concerning the technical investigation of accidents and incidents.[260] It reflects the safety paradigm in light of Article 26 of the Chicago Convention (1944).[261]

In the following subsections, I elucidate the obligations of States under ICAO Annex 13 and examine how they positively or negatively interact with the paradigms of safety and legal certainty.

- *Applicability of ICAO Annex 13 in light of the definition of the term 'accident'*

Standard 2.1 of ICAO Annex 13 asserts that procedures prescribed in Annex 13 apply to investigations of 'accidents' and 'incidents'.[262] The obligation of Article 26 to initiate an investigation according to Annex 13 arises only for events falling under the scope of these two terms, accidents and incidents as defined in Annex 13. The term 'accident' indicated in Article 26 is subject to a technical interpretation, as per the most recent edition of Annex 13.[263] The technical definition has been subject to evolution since the first release of Annex 13 in 1951.[264] While Article 26 of the Chicago Convention (1944) does not mention the term "incident", Annex 13 does.

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259 Yet, Captain Geut argues that the PIC and air traffic controller practically share a concurrent authority. *See* Geut H, 'The Law: The pilot and the Air Traffic Controller – Division of Responsibilities' (1988) 13(6) Air and Space Law 256, 258

260 Section 3.3.2 of this research.

261 Section 3.3.3 of this research.

262 "Unless otherwise stated, the specifications in this Annex apply to activities following accidents and incidents wherever they occurred." ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020) Standard 2.1. However, as analysed in Section 3.3.2 of this research, the scope of Article 26 does not necessarily prevent States from conducting investigations further according to procedures in ICAO Annex 13.

263 ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020) Foreword.

264 The definition of an 'aircraft accident' used to mean "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) any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or b) the aircraft receives substantial damage." In its third edition, the second condition of an occurrence considered to be an "aircraft accident" would require "damages or structural failure" which is related to a failure of technical factors of the safety paradigm. Since the fourth edition, the condition has included when the aircraft is inaccessible or missing. *See*, ICAO, *Annex 13 Aircraft Accident Inquiry* (1st edn, 1951) 9; ICAO, *Annex 13 Aircraft Accident Inquiry* (3rd edn, 1973) 9; ICAO, *Annex 13 Aircraft Accident Investigation* (4th edn, 1976) 9.

Changes in the definition of 'accident', updated in ICAO Annex 13 editions and the expansion of its scope, mark an interesting evolution in the promotion of the underlying safety paradigm. This evolution raises questions as to compliance with the obligation under Article 26 of the Chicago Convention (1944). Initially, the definition required investigation of events resulting in death, serious injuries of any persons, or substantial damage to the aircraft.[265] The current scope extends to events caused by technical factors and those involving the inaccessibility of the aircraft post-accident.

ICAO Annex 13 clarifies that Article 26 of the Chicago Convention (1944) moreover does not preclude Contracting States from taking actions outside its scope.[266] At least since 2020, when the most recent edition of Annex 13 was issued, States have had freedom, without notifying differences, to investigate accidents and incidents caused by non-technical defects such as pilot actions or other causes.[267] SARPs contained in Annex 13 apply to *any* technical investigations that States intend to conduct, provided they are implemented in domestic law and no deviations have been notified to ICAO.[268] An accident resulting from pilots' violations of the applicable flight and manoeuvre rules is no exception to this premise.

The broader understanding of accidents under ICAO Annex 13, as compared to Article 26 of the Chicago Convention (1944),[269] evidently contributes to promoting safety culture as part of safety management. However, clearly, it may also have implications for the prosecution of pilots. As technical investigations may take place in more circumstances, it means that more 'accidents' in a broad sense may also develop into criminal prosecutions of pilots. The implications of this regime for legal certainty are assessed in the following sections.

265 The persons would be required to be either in, upon the aircraft, or having been contacted directly with the aircraft or its part.

266 ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020) Foreword.

267 ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020) (x).

268 A technical investigation includes examination of cockpit voice recordings and airborne image recordings and any transcripts from such recordings, statements taken from persons by the accident investigation authority in the course of their investigation, communications between persons having been involved in the operation of the aircraft, medical or private information regarding persons involved in the accident or incident; recordings and transcripts of recordings from air traffic control units; analysis of and opinions about information, including flight recorder information. *See also*, Section 3.3.2 of this research.

269 ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020), Definitions. The definition is related to the time scope and results of the accidents, such as fatalities or damages sustained in the aircraft, but not the cause of the accident. This is comparable to the first definition of "aviation accident," which covers a narrower scope. *See* (n 704) for the 1st edition of Annex 13. Moreover, Annex 13 also covers "incidents", which mean an "occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation."

- *Purpose of the accident investigation*

Standard 3.1 of ICAO Annex 13 to the Chicago Convention (1944) – as will be explained below, seemingly paradoxically, in light of the above – provides the following:

> *"The sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability."*

The objective of accident investigation introduced in 1974 aligns with the safety paradigm. Standard 3.1, embodying this objective, was first incorporated into the 4th edition of ICAO Annex 13 only in 1976,[270] despite prior discussions on the aim of the investigations, dating back to the Chicago Conference preparing the Chicago Convention (1944).[271] The wording of this Standard has also evolved over time, transitioning from its initial text describing the "prevention of accidents and incidents" as "fundamental" for the achievement of safety in its current formulation, referring to this being the "sole objective" thereof.[272]

Standing as a cornerstone of "considerable legal interest," Standard 3.1 finds resonance in the concept of Just Culture, as discussed in the context of the safety and transparency paradigms in Section 2.3.5.[273] Investigations under ICAO Annex 13 aim to ascertain the *causes* of accidents, identify contributing factors, and provide recommendations to prevent the recurrence of such accidents. The emphasis is on learning for the sake of safety rather than punishment for possibly criminal behaviour. This approach aligns with the Just Culture concept as part of a safety culture focusing on reporting,

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270 *See also* ICAO, *Annex 13 Aircraft Accident Investigation* (4th edn, 1976) and ICAO, 'Annex 13 – Aircraft Accident and Incident Investigation' (Unknown) <https://applications.icao.int/postalhistory/annex_13_aircraft_accident_and_incident_investigation.htm> accessed 13 October 2024. Both documents refer to the Accident Investigation and Prevention Divisional Meeting of 1974 as the moment of consensus for the prime objective of the accident investigation to prevent accidents.

271 *See* the section analysing Article 26 of Chapter 3. Although it was not specifically mentioned in the preparatory work of the Chicago Convention (1944), possibly the first attempt which can be traced to stipulate the investigation authority's independence is dated back to the Air Commerce Act of the U.S. in the 1930s. *See* Miller CO, 'Aviation Accident Investigation: Functional and Legal Perspectives' (1981) 46(2) Journal of Air Law and Commerce 237, 239

272 The initial text of Standard 3.1 of ICAO Annex 13 reads as follows: "The fundamental objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability." *See* ICAO, *Annex 13 Aircraft Accident Investigation* (4th edn, 1976).

273 Milde M, 'Aircraft Accident Investigation in International Law' (1984) 9(1) Air and Space Law 61, 63. Prof. Milde refers to two other standards, which include Standard 5.12 of the ICAO Annex 13. The following subsection contains the discussion on this point.

learning and improvement by seeking to understand the systemic factors that may have contributed to an accident.[274]

Building on this Standard, the following subsections are dedicated to tracing the manifestation and reflection of Just Culture in ICAO Annex 13.

- *Disclosure of records*

While maintaining the objective of preventing future accidents through the lessons learned from accident investigations, the public release of findings and causes thereof appears inherently logical, aligning with the transparency paradigm. In the past, as long as the timing of the release was mutually agreed upon by the States involved in the investigation and considered in the " public interest," the disclosure of accident records was permissible.[275] However, this practice inadvertently contributed to the rise of a blame culture. A shift from the blame culture to Just Culture occurred in 1976 when the purpose of investigations was standardised.[276]

Importantly, ICAO concurrently clarified its stance regarding the possible establishment of criminal liability. Recommendation 5.12 of ICAO Annex 13 in 1976 specifically addresses the non-disclosure of certain records collected during the investigations in all cases. The records to be withheld pertained to the following three types:

- *Statements from persons responsible for the safe operation of the aircraft;*
- *Communications between persons having responsibility for the safe operation of the aircraft; and*
- *Opinions expressed in the analysis of information, including Flight Recorder information.*[277]

The non-disclosure of such qualitative records, in which identities and actions of the pilots could be identified, continues to be in apparent conflict between mostly vertical transparency and safety paradigms.[278] Pilots may be hesitant or refuse to express their views on the causes of accidents when such statements may lead to prosecution and, ultimately, their criminal

274 Section 2.2 of this research.

275 *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 1227 and 1229. Despite the freedom to disclosure, the concern on the use of records collected during the investigation was a long-standing concern since 1926. *See*, Fiorita DM, 'The International Framework of Aircraft Accident Investigation – Contemporary Issues' (1994) 19 Annals of Air and Space Law 151, 165.

276 ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020) Standard 3.1

277 Standards 5.12 on the disclosure of records used to be a Recommended Practice when initially introduced. *See* ICAO, *Annex 13 Aircraft Accident Investigation* (4th edn, 1976).

278 Vertical transparency is a "tool to assist citizens in trusting their government," referring to how the government shares its decision-making with the citizens. *See*, Section 2.3.1 of this research.

liability.[279] The safety paradigm is helped by information provided by pilots because it may contribute to the prevention of such accidents in the future. Non-disclosure of information gathered in the technical investigation to the public and possibly prosecutorial authorities may, however, breach vertical transparency, which citizens may wish to rely on under national constitutions and regulations.

In 1981, Recommendation 5.12 obtained the status of Standard 5.12.[280] Raising the legal status of that Recommendation (5.12) implies either notification to ICAO of differences or implementation of what is now a Standard (5.12) into domestic law.[281] This change in status reflects the growing needs of the international civil aviation community in terms of horizontal transparency in the sense of disclosure to aviation authorities and actors of all pertinent information.[282]

Furthermore, the material scope of Standard 5.12, as expanded with the rise of its status, became even more relevant for the potential prosecution of pilots. Standard 5.12 now includes "medical or private information regarding persons involved in the accident or incident" and "cockpit voice recordings and transcripts from such recordings" in its non-disclosure list.[283] Pilots' medical or private information or voice recordings and transcripts, which could reveal the behaviours and intentions of the pilots and their identity, collected during the technical investigation, ought to be protected. This extension has been criticised for compromising vertical transparency.[284] However, the rise of the status from a Recommended Practices to a Standard demonstrates the continuous support of ICAO and Contracting States for extended non-disclosure of certain records under Standard

279 I say continuous support as the ICAO Assembly, technical panels, and States produced multiple resolutions, working papers, and amendments of Standard 5.12 of ICAO Annex 13.

280 Recommended Practices may also become Standards. *See* Section 1.5.2 of this research.

281 *See* Section 1.5.2.5 of this research.

282 Horizontal transparency refers to openness and information sharing between entities, as in pilots providing the most relevant information to the accident investigation board.

283 ICAO, *Annex 13 Accident and Incident Investigation* (6th edn, 1981) Standard 5.12.

284 Knight JR, 'Accident Investigation Procedures as Viewed by a Technician' (1984) 9(1) Air and Space Law 30, 32: "It is to be regretted that such Freedom of information laws, while potentially giving greater protection to the individual can have an adverse effect when considering the wider public' s interest … l am not advocating that information obtained during an investigation should be withheld as confidential for its own sake, but when it is necessary to release information in the course of the investigation, it should be used responsibly." *See also* Durand CJ, 'Aircraft Accident Investigation: The Need for a Stronger International Regime ' (LL.M. Thesis, McGill University 1993) 74.

5.12,[285] to be interpreted in conjunction with Appendix 2 on the protection of records contained in ICAO Annex 13.[286]

The next subsection below, regarding the importance of balance between the protection of safety and the administration of justice, elaborates further on this issue.

Importantly, the supportive atmosphere for the non-disclosure of records in aviation is aligned with the purpose of investigations to manage safety reactively, which approach contributes to the creation of a Just Culture. To manage safety, one needs data and evidence to learn lessons and to prevent future accidents.[287] At the same time, such collected records help reactive and proactive management of safety for the data and risk-based approaches of the civil aviation sector.[288]

- *Separation between technical and judicial investigations*

Ensuring the sole purpose of ICAO Annex 13 investigations, that is prevention of accidents, used to involve the separation of technical investigations from criminal and other inquiries. In 1994, the Contracting States of the Chicago Convention (1944) created the independence of the technical investigation, mitigating the potential interference of judicial authorities. As said, the wording of Standard 3.1 of ICAO Annex 13 also changed from referring to the prevention of accidents as a "fundamental" to the "sole" objective of investigations.[289]

The apparent paradox referred to above is resolved through the following regime. In 1994, ICAO formulated Annex 13 in such a fashion that "[a]ny judicial or administrative proceedings to apportion blame or liability should be separate from any investigation conducted under the provision

285 Section 2.3.2.3 of this research and sources referred therein. *See also* ICAO, *Assembly Working Paper A33-WP/46 – Non-Disclosure of Certain Accident and Incident Records* (2001); ICAO, *Assembly Working Paper A36-WP/10 – Protection of Safety Information* (2007), ICAO, *Assembly Working Paper A37-WP/66 – Progress Report on the Protection of Certain Accident and Incident Records, and Safety Data Collection and Progressing Systems* (2010). ICAO Resolutions also show these efforts. *See* ICAO, *Assembly Resolution A33-17 – Non-disclosure of certain accident and incident records* (2001); ICAO, *Assembly Resolution A35-17: Protecting Information from Safety Data Collection and Processing Systems in order to Improve Aviation Safety* (2004).

286 However, the weak legal fore was not solved, although the Attachment supplement was used as a guide. *See* the concerns raised in Van Wijk AA, 'Amendment 8 to ICAO Annex 13 ('Aircraft Accident Investigation') – Some (Legally Oriented) Guidance in the Application of Para 5.12 ('Disclosure of Records') at last' (1988) 13 Air and Space Law 193, 204.

287 Section 2.2 of this research.

288 As further explained in Section 3.4.2.2. below.

289 ICAO, *Annex 13 Aircraft Accident and Incident Investigation* (8th edn, 1994) Standard 3.1. If the wording remained "fundamental," the purpose would not have been as clear as it is now, in my opinion.

of this Annex."[290] This means that judicial proceedings, including criminal prosecution, are not excluded by Annex 13. Importantly, however, a limitation is brought about. The addition of 1994, namely, shows the intention to separate accident and incident investigations under Article 26's obligation from any type of judicial proceeding potentially held under the Article 12 obligation. Captain Geut argues that this separation implies "no interaction" between the two investigations at all.[291]

However, the addition in 1994 was not as a Standard, but a Recommended Practice. As elucidated in Section 1.5.2.6 of Chapter 1 of this study, the binding force of Recommended Practices contained in ICAO Annexes is not as strong as that of Standards. It followed that the Contracting States were not obliged to separate accident investigations from judicial investigations. Prof. Schubert recognises that concurrent investigations may occur under paradigms beyond safety,[292] with one agency examining technical causes while another actively conducts criminal investigations.[293] However, this does not necessarily mean that the concurrent investigation would more easily lead to information sharing due to Standard 5.12.

In 2010, ICAO reaffirmed its support for the separation of investigations in at least two ways: by raising the status of the Recommended Practice 5.4.1 to become a Standard and by adding clarification.[294] This Standard (5.4.1) dictates that the technical investigation conducted under ICAO Annex 13 must be separated from legal proceedings designed to establish criminal or civil liability. This Standard reads as follows:

> *5.4.1 "Any investigation conducted in accordance with the provisions of this Annex shall be separate from any judicial or administrative proceedings to apportion blame or liability."*

The Note attached to Standard 5.4.1 reads as follows:

> "*Separation can be achieved by the investigation being conducted by State accident investigation authority experts, and any judicial or administrative proceedings being conducted by other appropriate experts. Coordination, as per 5.10 between the two*

290 ICAO, *Annex 13 Aircraft Accident and Incident Investigation* (8th edn, 1994) Recommendation 5.4.1. See, *Proceedings of the International Civil Aviation Conference* (United States Government Printing Office 1948) 1229 and 1230.

291 Geut H, 'IFALPA, Legal Committee Meeting' (1992) 17(3) Air and Space Law 166, 166.

292 Schubert F, 'Legal Barriers to a Safety Culture in Aviation' (2004) 29 Annals of Air and Space Law 19, 36.

293 NTSB Bar Association, 'Aviation Professionals and the Threat of Criminal Liability – How Do We Maximize Aviation Safety' 67 Journal of Air Law and Commerce 875, 894.

294 Specification 5.4.1 since 2010 is slightly rephrased. It reads that "[a]ny investigation conducted in accordance with the provisions of this Annex shall be separate from any judicial or administrative proceedings to apportion blame or liability."

processes would likely to be required at the accident site and in the gathering of factual information, with due consideration to the provisions in 5.12."[295]

This note supplements the current Standard 5.4.1 by suggesting that investigations be conducted by different experts, with "due consideration" to be given to non-disclosure of certain records.[296] This term evidently can pose challenges for judicial authorities in accessing certain evidence unless States notify ICAO of differences between domestic law and Standard 5.4.1.

At the same time, non-disclosure duties should not prevent Contracting States from fulfilling their duty to ensure prosecution. Besides finding a solution in obtaining evidence through autonomous means of judicial authorities, one manner in which fulfilment of the latter duty may be achieved is by State notification of differences or non-compliance, which will render the legal force of Standards void in that State.[297] Such notification will allow States to combine judicial and technical investigations in accordance with their domestic regulations, including enabling the exchange of information if the deviation from Standard 5.12 is also notified to ICAO.

- *The importance of striking a balance between the protection of safety and the administration of justice*

The purpose behind non-disclosure and the separation of investigations is evidently to prevent any "adverse impact on the availability of information in that or future investigations."[298] The term "investigations" refers to investigations conducted under ICAO Annex 13. This goal aligns with Just Culture as part of a positive safety culture by transforming information

295 Specification 5.12 is non-disclosure of records. Specification 5.10 discusses the required coordination between investigators and judicial authorities to successfully determine causes. *See also* ICAO, *Annex 13 Aviation Incident and Accident Investigation* (12th edn, 2020) Standard 5.10: "The State conducting the investigation shall recognize the need for coordination between the investigator-in charge and the judicial authorities. Particular attention shall be given to evidence which requires prompt recording and analysis for the investigation to be successful, such as the examination and identification of victims and read-outs of flight recorder recordings."

296 In addition, Attachment of ICAO Annex 19 provides "material supplementary to SARPs" to guide the applications of SARPs in how to apply Principle of Protection and Principle of Exceptions.

297 *See* Section 1.5.2. of this study on the legal force of SARPs.

298 ICAO, *Annex 13 Aircraft Accident Investigation* (4th edn, 1976) Recommendation 5.12.

from non-disclosed records into safety-related insights, including safety data and safety information.[299]

Prosecution in Article 12 of the Chicago Convention (1944) does not necessarily contradict the aim of the protection of safety information provided under ICAO Annex 13. Annex 13 explicitly states that "[i]t is not the purpose of protecting safety information to interfere with the proper administration of justice in States,"[300] In criminal law, the administration of justice falls under the autonomy of States.[301] As said, ICAO Annex 13 does not *per se* restrict prosecution as part of a State's autonomy.[302]

However, the conflict between the safety and legal certainty paradigms becomes apparent in achieving both the protection of safety and the administration of justice through a "balancing test".[303] States are tasked with finding the proper balance of any aviation paradigms in their national laws and procedures, aligning with ICAO's regime, while considering, on the one hand, their constitutional and other requirements pertaining to the accessibility of citizens to public information as a corollary of the transparency paradigm and,[304] and on the other hand, to give effect to the duty to prosecute where appropriate under Article 12 of the Chicago Convention

299 Safety information is "safety data processed, organized or analysed in a given context so as to make it useful for safety management purposes." ICAO Annex 19 defines safety data as "a defined set of facts or set of safety values collected from various aviation-related sources, which is used to maintain and improve safety. An activity that collects safety data includes accident or incident investigations. *See* ICAO, *Annex 19 Safety Management* (2nd edn, 2016) Definition. According to the ICAO, *Amendment 11 of Annex 13 Aircraft Accident and Incident Investigation* (2001) Attachments E, records pertaining to accident and incident investigations, mandatory incident reports, systems voluntary incident reports, and self-disclosure.

300 ICAO, *Amendment 11 of Annex 13 Aircraft Accident and Incident Investigation* (2001) Attachments E, 2.2.

301 Van Dam R, 'Preserving safety in aviation: "just culture" and the administration of justice' (2009) 22 Air and Space Lawyer 1, 5. *See also*, Van Wijk AA, 'Amendment 8 to ICAO Annex 13 ('Aircraft Accident Investigation') – Some (Legally Oriented) Guidance in the Application of Para 5.12 ('Disclosure of Records') at last' 13 Air and Space Law 193, 200.

302 *See also,* ICAO, *Amendment 11 of Annex 13 Aircraft Accident and Incident Investigation* (2001) Attachments E, 2.3 which highlights the role of national laws and regulations to strike a balance between safety and administration of justice.

303 ICAO Annex 13 offers this since 2016. Balancing test in Annex 13 refers to "the determination by the competent authority, in accordance with 5.12, of the impact the disclosure or use of accident and incident investigation records may have on current or future investigations." The working paper from ICAO thoroughly summarises details of the balancing test and other amendments made. See, ICAO, *Asia Pacific Regional Aviation Safety Team Working Paper APRAST/8-WP/8: Amendment 15 to Annex 13* (2016). ICAO also further proposes certain factors to be considered in the disclosure of evidence and records collected during the technical investigation. *See also*, ICAO, *Annex 13 Aviation Incident and Accident Investigation* (13th edn, 2024) Appendix 2.

304 Section 2.4 of this research.

(1944). Duties to non-disclose and keep investigations separate can hinder both of those efforts.

Jurisdictions around the world may have varying perceptions on how to conduct the balancing test, considering national legislation, including constitutional provisions.[305] This variety of perceptions does not help to strengthen the paradigm of legal certainty because pilots flying from one State to another are involved in myriad jurisdictions.

3.4.2.2 ICAO Annex 19

- *Safety management*

Prof. Mendes de Leon characterises ICAO Annexes as "living instruments" that evolve over time to regulate aviation safety.[306] Amongst these Annexes, ICAO Annex 19 stands out as the "youngest Annex,"[307] showcasing the dynamic nature of ICAO Annexes. As stated in Section 1.7.2.4 of Chapter 1, Annex 19 is exclusively dedicated to the Safety Management System (SMS), a concept considered innovative upon its introduction into international civil aviation. The SMS is a systematic approach to managing safety by identifying, assessing, and mitigating risks, with the overarching goal of continuous improvement in safety performance.[308]

While ICAO Annex 19 does not govern the criminal liability of pilots, it endeavours to regulate the use of safety data and information in criminal proceedings, particularly in cases where no technical accident investigations have been instituted. Even in the absence of a formal accident investigation, the actions of pilots are still scrutinised within the safety management framework under ICAO Annex 19.

- *Principles of protection in ICAO Annex 19*[309]

The protection afforded to the position of pilots in legal proceedings provided by ICAO Annex 19 does not significantly differ from that under ICAO Annex 13. For instance, there is also a conditional non-disclosure duty under ICAO Annex 19, meaning judicial authorities may not simply use certain records to determine criminal liability. Importantly, the scope of ICAO Annex 19 surpasses ICAO Annex 13, which primarily targets reactive management.[310] The significant difference is emphasised here: the principles outlined in ICAO Annex 19 apply to all safety data, safety information,

305 Choi J and Truxal SJ, *Accessibility of Investigation Records from the Aircraft Accident at Bijlmermeer – A Comparative Legal Analysis* (2024).
306 Mendes de Leon PMJ, *Introduction to Air Law* (11th edn, Wolters Kluwer 2022) 29.
307 Mendes de Leon PMJ, *Introduction to Air Law* (11th edn, Wolters Kluwer 2022) 29.
308 *See* definitions provided in ICAO, *Safety Management* (1st edn, 2013); ICAO, *Annex 19 Safety Management* (2nd edn, 2016).
309 Section 2.3.2.4 of this research.
310 Section 1.7.1.3 of this research.

and sources collected during the proactive safety management activities of Contracting States. In other words, evidence and records collected for the technical investigation of accidents and incidents do not fall under the scope of the protection provided under ICAO Annex 19.[311]

Within the realm of data protected by ICAO Annex 19, various norms laid down in this Annex are pertinent to violations of pilots of flight and manoeuvre rules. These include safety reporting, operational performance monitoring, inspections, audits, surveys, and safety studies and reviews.[312] Once these data are "processed, organized or analysed in a given context to make it useful for safety management purposes,"[313] they transform into "safety information." Such safety information also falls within the ambit of protection provided by ICAO Annex 19. The enumerated safety data and insights derived from them can unveil pilot's violations, potentially giving rise to criminal liability, even in the absence of an accident or a formal investigation thereof. However, the protections are, again, conditional, and safety data and information may be disclosed if they fall under the principles of exceptions.

- *Principles of exceptions under ICAO Annex 19*

The principles of exceptions are in Standard 5.3.3,[314] based on its recognition of absolute and complete sovereignty and autonomy of States.[315] Conditions for disclosure are detailed in the conditions of Appendix 3 within the same Annex. These conditions read:[316]

> "***Principles of exceptions***
> *Exceptions to the protection of safety data, safety information and related sources shall only be granted when the competent authority:*
> *a) determines that there are facts and circumstances reasonably indicating that the occurrence may have been caused by an act or omission considered, in accordance with national laws, to be conduct constituting gross negligence, willful misconduct or criminal activity;*
> *b) after reviewing the safety data or safety information, determines that its release is necessary for the proper administration of justice, and that the benefits of its release outweigh the adverse domestic and international impact such release is likely to have on the future collection and availability of safety data and safety information; or*

311 *See* Section 3.4.2.1 of this research. *See also* ICAO, *Annex 19 Safety Management* (2nd edn, 2016) APP 3-1.
312 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) Definitions. The list is collected based on the analysis of the principle of ICAO Annex 19.
313 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) Definitions.
314 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) Standard 5.3.1: "States shall accord protection to safety data captured by, and safety information derived from, voluntary safety reporting systems and related sources in accordance with Appendix 3."
315 Section 1.4.3 of this research.
316 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) APP 3-2.

c) after reviewing the safety data or safety information, determines that its release is necessary for maintaining or improving safety, and that the benefits of its release outweigh the adverse domestic and international impact such release is likely to have on the future collection and availability of safety data and safety information."

The exceptions formulated in ICAO Annex 19 closely mirror those found in ICAO Annex 13.[317] Annex 19 directs States to avoid paradigm conflicts in three scenarios: violations that may constitute "gross negligence, wilful misconduct or criminal activity;" the prosecution outweighing the benefit of the protection of safety data or information; or when the prosecution of pilots by releasing the safety data and information contributes to safety management.

Again, while Annex 19 is primarily designed to support the safety paradigm, it also acknowledges the transparency paradigm and supports the administration of justice. In my opinion, ICAO Annex 19 strikes a better balance compared to ICAO Annex 13 by providing the principle of exceptions, thereby recognising the importance of horizontal and internal transparency and the administration of justice. Moreover, ICAO Annex 19 offers more concrete guidance that States can utilise to balance conflicting interests. ICAO Annex 19 requires States to establish "authoritative safeguards" to protect sources like pilot statements and other data that can be linked to them, such as flight data recorders, also in the event that prosecution is deemed necessary, before releasing data as evidence of such.[318]

However, acknowledgement of the benefit of balancing interests does not necessarily aid legal certainty. Rather, Annex 19, as does Annex 13, allows disclosure which may mean potential prosecution and criminal liability. Reference to (subjective) elements such as "gross negligence, wilful misconduct or criminal activity" as determinants in this regard again exacerbates clarity issues.[319]

- *Exceptions to exceptions: public disclosure*

In contrast to ICAO Annex 13, ICAO Annex 19 places a more prominent emphasis on vertical transparency. This is evidenced by Annex 19's explicit mention of "right-to-know laws" urging States to establish exceptions to ensure vertical transparency.[320] This approach can be explained by changes in perception over time, dictating that information collected by public authorities must be accessible for citizens in the jurisdiction under whose authority that information has been gathered.[321]

317 *See* Sections 2.3.2.3 and 3.4.2.1 of this research.
318 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) APP 3-2. The same Appendix suggests "protective orders" or "deidentification of data" as safeguarding measures.
319 *See* Section 3.4.2.1 of this research.
320 ICAO, *Annex 19 Safety Management* (2nd edn, 2016) APP 3-3.
321 *See* Section 2.3 of this research.

Some Contracting States of the Chicago Convention (1944) consider the principles of protection for safety data and information under ICAO Annex 19 as a "mandatory obligation."[322] These States advocate for restricting the scope of vertical transparency. Within the realm of this advocacy, the safety paradigm is the priority. In other states, the opposite is true. As explained in Chapter 2, the right-to-know and the right to information connected to vertical transparency are viewed as constitutional rights that may not be compromised.[323]

In navigating the complex relationship between vertical and horizontal transparency and safety in the context of ICAO Annex 19, I argue that ICAO does not always mean to absolutely prioritise safety over vertical transparency, especially considering the conditional legal force of SARPs.[324] Furthermore, prioritising principles of protection of safety data and information over vertical transparency contradicts the training materials of ICAO, acknowledging that ICAO cannot impose compromises with respect to vertical transparency.[325]

Thus, depending on the implementation of the relevant ICAO SARPs and the domestic guarantees for the accessibility of public information, the balance between vertical transparency and safety may vary across different States. Some give precedence to vertical transparency, while others prioritise safety. The approach taken by each State is influenced by various factors, including their legal frameworks, national policies, and overall aviation safety considerations.

Choices in different jurisdictions, both concerning vertical and horizontal transparency, can impact the legal certainty paradigm. When information is not passed on to either the public domain or the judicial arena, including that of criminal prosecution, 'violations' are not processed and assessed in either platform. The distinction between behaviours that should or should not lead to judicial action can be determined through the judicial process,

322 ICAO, *Assembly Working Paper A39-WP/110: Protection of Safety Information* (2016) 3. The States advocating the safety paradigm are: Argentina, Aruba, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela

323 *See* Section 2.3. and ICAO, *Supplement to Annex 13, Ninth Edition* (2003) as an example. 10 States notified that accident records under ICAO Annex 13 cannot be protected based on ICAO Annexes. Sometimes, protections would be granted by domestic criminal procedure law. However, the protection granted under criminal procedural law is still not in support of the paradigm of safety, *per se*. Rather, it is a protection of the accused from the public. More recent information could not be obtained.

324 *See* Section 1.5.2. on the legal force of SARPs and part of the analysis in the previous section on the special legal force granted to Attachment 3 of ICAO Annex 19, in this research.

325 ICAO Interstate Aviation Committee, *Safety culture workshop – Safety culture and safety information protection* (23-25 February, 2021).

whether in civil law claims initiated by citizens or in criminal prosecution. An atmosphere of strict non-disclosure will prevent norms from crystallising in this manner. For pilots, this means that it remains unclear and uncertain which types of behaviours, or 'violations', may lead, under which circumstances, to criminal prosecution.

3.4.3 Concluding remarks of Section 3.4

Section 3.4 seeks to explore SARPs relevant to the prosecution of pilots in order to further clarify prosecution duties under Article 12 of the Chicago Convention (1944). The analysis uncovered both complexity and relativity in pertinent substantive and procedural facets.

The Rules of the Air, as laid down in ICAO Annex 2, are especially relevant to the present research question because they emerge prominently in discussions with respect to the criminal liability of pilots and the safety paradigm. Annex 2 stipulates that the PIC bears a principal responsibility for the safe conduct of aircraft operations. For instance, the *final* decision for the safe operation of the aircraft rests with the PIC. If the safety of the aircraft is compromised due to the actions of a co-pilot, both the PIC and co-pilot may be subject to prosecution under Article 12 of the Chicago Convention (1944).

In determining the necessity of diversion from flight and manoeuvre rules, the PIC, and, in specific cases, co-pilots, bear ultimate responsibility, even if decisions are made in consultation with air traffic controllers. This scenario highlights a clash between the safety paradigm and the legal certainty paradigm, where the foreseeability of the crime may be low because of difficulties involved in the isolation of pilot criminal liability within a multiplicity of factors and (in)actions which may contribute to accidents and which can be linked to diverse actors.[326] The relatively low foreseeability of the possibly criminal conduct of the PIC is moreover caused by the fact that aviation is a *global undertaking*, implying that pilots fly their aircraft into and from many States in the world. Such States may or may not have implemented the relevant SARPs of ICAO Annex 2 and other ICAO Annexes, especially Annexes 6 and 11. All these States and their courts adjudicating the alleged criminal liability of a pilot may have different perceptions of violations and whether or not they constitute criminal acts.

Chapter 4 presents an analysis of selected jurisdictions illustrating this lack of legal certainty.

ICAO Annex 13 presents a clash of all paradigms engaged in this research. Accident and incident investigation under this Annex is primarily aimed

326 *See* Section 2.4 and Chapter 5.

at protecting against the occurrence of future accidents, aligning this goal with the safety paradigm. Unlike ICAO Annex 2, which may support the prosecution of pilots by detailing acts of pilots, Annex 13 expressly outlines the exclusive objective of technical investigations: *not* to apportion blame or establish criminal liability based on records collected from the technical investigation. These may be the most useful sources to define one's liability for judicial proceedings.

Non-disclosure and investigation separation, as promoted by this Annex, does not exclude prosecution, however. Depending on the implementation of the relevant Standards of ICAO Annex 13 and the criminal law of a particular State, courts may or may not have access to the records and data collected by the bureau responsible for conducting the technical investigation.

ICAO Annex 13 indicates the need for a balancing test to determine when the prosecution and resolution of a potential need for apportionment of blame is necessary. This test, introduced by ICAO Annex 13, seeks to balance various interests based on Just Culture, reflecting safety and transparency paradigms.[327] The evolution of the status of *specifications*, thus Standards and Recommended Practices, within ICAO Annex 13 contributes to the clarification of these objectives.[328] In the course of time, ICAO has understood that the safety paradigm cannot be maintained as the exclusive paradigm governing the actions of pilots and other aviation actors, which is why ICAO introduced the 'balancing test.' However, such balancing tests do not provide extensive clarity. Whether or not information can be shared remains an open issue.

Standards in ICAO Annex 13 are also not effectively implemented, while States also do not notify ICAO of their inability to do so. How information exchange is regulated and governed in diverse jurisdictions is thus not always clear.

Indeed, many States do not consistently separate judicial and technical investigations and/or do not synchronise these investigations in domestic regulations or protocols concluded between the concerned public authorities. All paradigms engaged in this research are impacted, as all are served by clear, accessible and globally applicable rules.

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327 *See* Section 3.4.2.1. in this research.

328 For example, sometimes an Attachment becomes Recommended Practice, which may eventually become a Standard. *See* Subsection on disclosure of records in Section 3.4.2.1. *See also* Griggs C, 'Just Culture and Accountability for Flight Safety Events in Australia and New Zealand' (2014) 79 Journal of Air Law and Commerce 441, 446.

Chapter 4 of this research is designed to illustrate how the norms laid down in the Chicago/ICAO regime unpack into national law in conjunction with domestic criminal laws.

ICAO Annex 19 came into being in 2013. It aligns with Just Culture, but it does not explicitly oppose the prosecution of pilots and other aviation actors.[329] The conditions for exceptions in ICAO Annex 19 remain consistent with Just Culture, even though this concept is not explicitly mentioned. At the same time, this Annex illustrates well how broad the potential may be for criminal prosecution of pilots in that it ultimately also allows for the disclosure of information, even in the absence of accidents and formal investigations.

3.5 Chapter Conclusion

This chapter tried to explain from a historical perspective how the basis for prosecution and criminal liability of pilots has been framed in the contemporary international legal framework governing international civil aviation. It also touched upon the intricate interactions between particularly the safety and transparency paradigms. The evolution of the international legal landscape for international civil aviation reflects a transformative journey. Originating in Paris in 1910, the concept of safety culture or safety management was absent in the nascent legal framework. In this period, emphasis was placed on compliance as a preventive measure against accidents, while prosecution and punishment served as a reactive mechanism. The confidence in these reactive and preventive mechanisms persisted during the conclusion of the Chicago Convention (1944).

The delicate relationship between Article 12 of the Chicago Convention (1944) and its Annexes is rooted in history. Channelling the spirit of the Paris Convention of 1919, Article 12 obliges the Contracting States of the Chicago Convention (1944) to ensure the prosecution of pilots for violations of flight and manoeuvre rules. However, the sophisticated language underlying Article 12 simultaneously regulates the permissible conduct of pilots, with a focus on only prosecuting violations causing "an immediate adverse impact against safety with some degree of intentionality."[330]

This chapter questions whether international civil aviation supports the administration of justice and how criticism against prosecution becomes manifest in the limitation of vertical transparency. ICAO Annex 13 Annex underscores that the primary objective of accident investigations is not criminal prosecution. This definition of the 'primary objective' has sparked

329 Section 3.4.2.2 of this research.
330 Section 3.3.1.6 of this research.

debates because of thresholds raised for the use of accident records to delineate and assign blame.

That said, Annex 13 has evolved. It now highlights the importance of safeguarding technical investigations while also recognising the pursuit of justice in the aftermath of accidents. The goal is to strike a balance between transparency and responsibility in order to serve the overarching objective of enhancing aviation safety.

Consequently, States hold the discretionary power to disclose accident investigation records to support criminal proceedings or for public disclosure, contingent on a meticulous evaluation and the balancing of interests. Moreover, States retain the option to conduct parallel investigations, in terms of technical and judicial procedures, for purposes beyond solely promoting safety. ICAO Annex 13 explicitly refrains from prohibiting the initiation of prosecution in the aftermath of accidents. The reluctant approach adopted in Annex 13 towards the institution of judicial proceedings involving the behaviour of pilots in the context of accident and incident investigation has been further mitigated by Annex 19, in which the concept of Just Culture has been incorporated, although not absolutely.

The current international legal framework does not contain a definitive and permanent solution to the existing dichotomy among paradigms. The dynamic nature of international civil aviation development makes the attainment of a definitive solution improbable. Nonetheless, ICAO operates as a global forum where States engage in discourse and collaboration to address safety concerns in international civil aviation. ICAO also endeavours to find a balance in paradigms. An exemplary manifestation of this collaboration is the establishment of a task force group dedicated to enhancing mechanisms supporting the implementation of Article 12.[331] While a conclusive resolution remains elusive, ongoing discussions and cooperative efforts within ICAO contribute to the continual improvement of the international legal framework, also aiming to clarify issues related to the criminal liability of pilots.

Finally, the exploration of the international legal framework shows that neither the Chicago Convention (1944) nor legal instruments drawn up and updated by ICAO impose restrictions on the prosecution of pilots and other aviation actors. Chapter 4 discusses States' practices pertaining to the prosecution and the establishment of criminal liability of pilots, as illustrated by the implementation of ICAO SARPs in the national regulations of the selected States, their criminal laws and other regulations, as interpreted in court cases.

331 *See,* ICAO, *Legal Committee Working Paper LC/38-WP/2: Legal Committee – 38th Session* (2022)