LIABILITY FOR SURFACE DAMAGE CAUSED AEROSPACE VEHICLES*

by

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ABSTRACT

Whereas under the common law, surface damage would be dealt with under the rules of negligence or strict liability, special rules apply with regard to damage caused by aircraft in international carriage or space objects and these are found in multilateral international conventions on liability. One initial difficulty is the demarcation between air and space which determines which regime and Convention would apply. The complexity will only be compounded as the era of commercial aerospace travel draws closer, and it may be necessary to determine whether an aerospace vehicle within airspace is to be considered an aircraft. This article seeks to lay out the regimes applicable under international space and air laws respectively and focuses on issues of contention in the respective legal regimes.

The article begins by examining the two major treaties covering the international space law on liability which focuses liability on the State, before examining the development of the private international law regime applicable to air transportation operators for surface damage which places responsibility squarely with the commercial entity.

LIABILITY UNDER THE INTERNATIONAL SPACE LAW REGIME

The space law treaties deal only with the responsibility of States for space activities. As space law is part of international law, by definition the State is the only legal person that is recognized as having the ability to shoulder rights and responsibilities. Though the space law treaties did consider that private entities may engage in space activities, the treaties deal only with the public international law ramifications of a space incident and hence hold States liable for damage resulting from all of their space activity. However the regime is not exclusive in that recourse under the commonly applicable law of a jurisdiction is not excluded.

The Outer Space Treaty of 1967

The international space law regime places liability upon the State rather than the launcher or operator, and liability is not limited.[1] Though it was foreseen that "national activities in outer space" would be undertaken by private entities, the Outer Space Treaty[2] imposes international responsibility solely on States.[3]

Specifically, Article VI of the Outer Space Treaty imposes an obligation upon States to authorize and supervise the activities of its nationals in space.[4] Article VII provides that any State that launches or procures the launch of an object into outer space, and each State from whose territory or facility a space object is launched, is liable for damage to another State or its natural or juridical persons whether such damage occurs on the Earth, in the air, or in space.[5] Further, Article VIII of the Outer Space Treaty provides that a State "on whose

registry an object launched into outer space is carried shall retain jurisdiction and control over such object . . . ."

The Liability Convention of 1972

These general principles established by the Outer Space Treaty are elaborated in the subsequent Convention on International Liability for Damage Caused by Space Objects (the "Liability Convention").[6] Under the Liability Convention, the launching State (defined as a State that launches or procures the launch of a space object, or from whose territory or facility the object is launched) is absolutely liable[7] for damage caused by a space object to the surface or to an aircraft in flight.[8] Recoverable damages are "loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations . . . ."[9] Where States jointly launch a space object, they are jointly and severally liable for any damage it may cause.[10]

The Convention outlines a limited number of defences. The launching State may be wholly exonerated from liability if it proves that the damage resulted from the "gross negligence or from an act or omission done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents",[11] unless the launch was not in conformity with principles of international law, including in particular, the United Nations Charter or the Outer Space Treaty.[12]

The Liability Convention establishes procedures for the settlement of claims, including a one year statute of limitations and, where necessary, establishment of a Claims Commission.[13] Claims must be presented through diplomatic channels by a State on its behalf, or on behalf of its nationals.[14]

Should the State whose natural or juridical persons suffered damage decline to file a claim, another State may present a claim for damages sustained in its territory by any natural or juridical person. If neither the State of nationality nor the State in whose territory the damage was sustained files a claim, another State may file a claim for damages suffered by its permanent residents.[15]

Individuals incurring harm have no right of direct action, as suit must be brought by a State, a right which to date no State has ever exercised with respect to an individual's losses.[16] However, the 1978 crash of the *Cosmos 954* satellite into Canada, creating damages totaling $14 million, led Canada to file a $6 million claim with the (then) Soviet Union, of which $3 million was eventually paid.[17]

Experts do not concur on whether domestic causes of action are retained. One source claims the "uncertain remedies available to private citizens . . . unjust because the risk of outer space damage to citizens and property is growing as the number of artificial space objects in orbit continues to increase."[18] However, another source opines: "[T]he Liability Convention does not impose domestic tort liability standards and does not preclude individuals from pursuing remedies in domestic courts. Individuals are allowed to file negligent tort claims in U.S. domestic courts for damage caused by [commercial human space

flight] vehicles to objects or persons in outer space, subject to the laws of the United States."[19]

The Liability Convention explicitly does not prevent a State, "or natural or juridical persons it might represent, from pursuing a claim in the courts or administrative tribunals or agencies of a launching State."[20] Thus, though domestic law may preclude a suit brought by an individual for damages in space, the Convention does not.

LIABILITY UNDER THE INTERNATIONAL AIR LAW REGIME

As opposed to international space law which does not explicitly deal with the liability of a private entity, international air law focuses on engaging the liability of the aircraft operator, but restricts the extent of such liability. Further, the air law regime regarding liability is also more elaborate, and has been subject to various revisions.

The Rome Convention of 1952

The *Rome Convention of 1952*[21] governs surface damage by aircraft[22], in any instance where "the damage was caused by an aircraft in flight or by any person or thing falling therefrom . . . .".[23] Liability of the owner or operator of the aircraft is limited, based upon the weight of the aircraft with the cap for each person killed or hurt on the ground standing at around $33,000 and the total cap per incident being around $700,000.[24] No person who wrongfully caused the damage is entitled to recover under the Convention.[25] An exoneration from liability is provided where "damage is the direct consequence of armed conflict or disturbance...".[26] However, where harm is intentionally caused by the aircraft operator's employees, liability is not capped.[27]

Though the Rome Convention entered into force in 1958, fewer than 50 States have ratified it, and even fewer have ratified the Montreal Protocol of 1978 which sought to modernize the system.[28]

The Montreal Conventions of 2009

In 2000, the ICAO Legal Committee included modernization of the Rome Convention of 1952 in its Work Programme.[29] This project gained momentum when the potential destructive force of aircraft was underlined in the terrorist attacks of September 11, 2001.

In 2004, the ICAO Council created a Special Group on Modernization of the Rome Convention.[30] Early on, the Council Special Group agreed on several points:

- Victim protection should at least match that in the 1999 Montreal Convention.
- Adequate protection for the air transport system, including air carriers, ought to be provided, which especially addresses the problems of "catastrophic losses".
- To balance the aforementioned interest, it would be necessary to take account of the availability of insurance coverage in the market or other mechanisms.
- Terrorist attacks are the major threat to the air transport system with regard to the issues at hand,

especially if they lead to catastrophic losses.
- It will not be possible to reconcile the two goals of providing both adequate victim compensation and appropriate protection for the civil aviation sector within the present scope of the compensation system.
- A supplementary funding mechanism for compensation could bridge the gap between what is an adequate level of victim protection for the civil aviation sector and ensuring the durability of the system.[31]

There was a consensus that the two-tier liability regime of the Montreal Convention of 1999 should be incorporated into the surface liability regime, and that terrorist risk should receive specialized treatment.[32] In 2005, the ICAO Council raised the issue to Priority No. 1 for the Legal Committee, and in 2006, amended the title of this action item to read: "Compensation for damage caused by aircraft to third parties arising from acts of unlawful interference or from general risks."[33] That year, the Special Group on Modernization of the Rome Convention announced it would proceed to draft Conventions dealing separately with unlawful interference and with other general risks of aviation.[34] ICAO convened a diplomatic Conference in Montreal from April 20th to May 2nd 2009 to discuss the draft Conventions.

(1) The Convention on Compensation for Damage Caused by Aircraft to Third Parties [General Risks Convention] covering liability third party damages caused by an aircraft on an international flight not arising out of unlawful interference. It seeks to replace the Rome Convention by providing strict liability for compensation of victims; and

(2) The Convention on Compensation for Damage to Third Parties Resulting from Acts of Unlawful Interference [the Unlawful Interference Convention] providing compensation to individuals suffering damages as a result of unlawful interference of aircraft and establishes a supplementary compensation mechanism for damages incurred beyond the limits on liability contained in the Convention

In their Preambles, both Conventions set out to balance the interests of equitably compensating victims with the financial viability of the aviation industry. Both Conventions impose liability upon aircraft operators for damage to third parties occurring in a State Party by an international aircraft in flight.[35] One may be making use of the aircraft when he is using it personally or when his agents are using the aircraft in the course of employment, "*whether or not within the scope of their authority.*"[36] As in the Chicago Convention, State aircraft are excluded from the scope of the Convention.[37]

Liability is imposed on aircraft operators for death, bodily injury and mental injury as well as environmental and property damage.[38] Punitive, exemplary, or non-compensatory damages are not recoverable.[39] Nuclear incidents are beyond the Conventions' scope.[40]

Both Conventions allow recovery for mental injuries "resulting from bodily injury or from direct exposure to the likelihood of imminent death or bodily injury." This goes beyond the

jurisprudential interpretation of the Montreal Convention 1999 which typically limits recovery to mental injury flowing from bodily injury. Emotional damages have always been polemical due to the difficulty of proving them. Claims for nervousness, loss of sleep, inability to concentrate or to work, loss of consortium and post traumatic stress disorder likely will grow under the Conventions, as will the number of people who will claim to have been exposed to a "likelihood of imminent death or bodily injury." This will dilute the ability of insurers to predict risk, and cost it appropriately.

Liability limits for the operator range from 750,000 Special Drawing Rights [SDRs] for an aircraft weighing under 500 kilogrammes (kg), to 7 billion SDRs (approximately US$10 billion) for an aircraft weighing over 500,000kg, per event.[41] If two operators cause the damage, the limit of liability is determined by the aircraft of the highest maximum mass,[42] and the operators are deemed jointly and severally liable.[43] However, aircraft lessors and financiers that are not operators are excluded from liability.[44]

Operators (and under the Unlawful Interference Convention, the International Fund) may be exonerated from liability to the extent that they prove the damage was caused, or contributed to, by an act or omission of a claimant or the person from whom the claimant derives his rights.[45] Specifically, the Conventions limit or exclude liability when the victims committed acts contributing or causing damage which were ". . . *done with intent or recklessly and with knowledge that damage would probably result* . . . ." The italicized language originated in the Hague Protocol of 1955 as a reformulation of the term "willful misconduct" in Article 25 of the Warsaw Convention of 1929. With those terms, the Hague Protocol clarified what was intended by the "willful misconduct" provision of Article 25 in the Warsaw Convention. The concept was often litigated as an important means of penetrating Warsaw's low liability ceilings. Hence, there is voluminous jurisprudence on the issue of willful misconduct.

Under both Warsaw and Hague, willful misconduct has been defined by the courts as (1) intentionally performing an act (or omission) with the knowledge it will probably result in an injury or damage, or (2) performing an act in reckless disregard of its consequences.[46] Willful misconduct is deemed by the jurisprudence as neither ordinary negligence, nor even gross negligence;[47] it is something more.[48]

Despite an abundance of jurisprudence since 1929, rarely has recovery been enhanced under this provision, for willful misconduct has been difficult to prove.[49] The standard imposed on carriers by the Montreal Convention 1999 is significantly more difficult for operators to meet, for Article 20 requires "If the carrier proves that the damage was caused or contributed to by the negligence or other wrongful act or omission of the person claiming compensation, or the person from whom he or she derives his or her rights, the carrier shall be wholly or partly exonerated from its liability to the claimant to the extent that such negligence or wrongful act or omission caused or contributed to the

damage." Sitting as an observer, the McGill Institute of Air & Space Law urged that this language be applied in the General Risks Convention. Comparative fault principles should be negligence based, and not triggered by the difficult standard of willful misconduct. Instead, the President of the Diplomatic Conference preferred the committee draft in this, and most other areas.

Neither Convention enters into force until 35 States have ratified it; and in the case of the Unlawful Interference Convention, those States must represent 750 million passengers.[50] Fewer than 50 States ratified the Rome Convention of 1952, and absent were the States that represent the lion's share of commercial aviation movements.

Both conventions impose a two year period of limitations commencing "from the date of the event which caused the damage."[51] Venue in both conventions is limited to the "courts of the State Party in whose territory the damage occurred."[52] If damage occurs in more than one State Party, suit may be brought "only before the State Party of the territory of which the aircraft was in or about to leave when the event occurred."[53] This centralization of litigation in a single jurisdiction is one of the conventions' strengths, inasmuch as it will facilitate claims' consolidation and, perhaps, settlement. Also under both conventions, judgments shall be recognized and enforced in any State Party.[54]

We now turn to consider the idiosyncrasies of the two Conventions:

The General Risks Convention

Under the General Risks Convention, the compensation ceilings may be pierced unless the operator proves: (1) it was not negligent and did not act wrongfully, or (2) damage was *solely* due to the act or omission of another person.[55] The Institute of Air & Space Law unsuccessfully urged delegates to delete the word "solely", and replace it with the phrase "the wrongful act or omission of another person was the primary cause of the damage."

The paragraph ultimately adopted in the General Risks Convention on breaching the liability ceiling was borrowed from the Montreal Convention of 1999.[56] However, there and here, the word "solely" emasculates the defense and makes it effectively surplus verbiage.[57] The requirement that the operator prove that the negligence or other wrongful act or omission of a third person was the *sole* cause of the damage places an impossible burden of proof upon him. For example, if the principal cause of the injury was a manufacturing defect of the aircraft, the injured person would urge that the operator's maintenance staff negligently failed to discover it. Similarly, if an outsourced maintenance provider failed to properly repair an aircraft, and that negligence was the principal cause of the damage, the operator would have a difficult time proving that negligence was the sole cause as the maintenance could have been better supervised.

In any event, if a catastrophic accident occurs that causes surface damage, there likely will be little evidence of the absence of negligence or the exclusive negligence of a third party for an operator to exonerate itself. In all mass disaster litigation, the airline will find

itself absolutely liable irrespective of fault to the full measure of damages. It will concede liability and proceed to the issue of quantum of damages. This thwarts one of the Convention's major goals – to enhance predictability of damages and thereby facilitate obtainment of affordable insurance. Indeed, State parties must require their operators to maintain adequate insurance or guarantee their liability.[58] Potentially unlimited liability will make this requirement extremely difficult to fulfill.

The Unlawful Interference Convention

The Unlawful Interference Convention establishes an International Civil Aviation Compensation Fund [ICACF] to be managed by a secretariat supervised by a Conference of State Parties to the Convention. Fees will be collected from passengers and shippers of air freight in an amount determined by the Conference of Parties with a view to accumulating three billion SDRs.[59] The ICACF is designed to provide compensation above the operator's liability limits. The maximum amount of compensation available from the fund for each event is targeted at 3 billion SDRs (approximately $4.5 billion).[60] If insurance is unavailable, or available "at a cost incompatible with the continued operation of air transport generally", the Fund may, at its discretion, cover the liability of the operators.[61]

The Unlawful Interference Convention includes a complex method of piercing the liability ceiling, and then closing that ceiling once pierced. If the total damages for an event exceed the limits set forth in the Convention (including from the ICACF), the victim may claim additional compensation upon proof that the operator contributed to the occurrence of the event with the intent to cause damage, or the operator acted recklessly and with knowledge that damage would probably result.[62] Where damage results from the actions of an employee, the operator can avoid additional liability by proving that either it had an appropriate system for selection and monitoring of employees in place; or that it acted in compliance with security requirements under the Chicago Convention.[63]

Rights of recourse (or subrogation) exist for the operator against "any person who has committed, organized or financed" the unlawful interference, and "any other person."[64] The Fund also enjoys a right of recourse against a terrorist, the operator (unless exonerated from liability as described above), or "any other person."[65] Curiously, the right of recourse against "any other person" is limited to the amount which "could have been covered by insurance available on a commercially reasonable basis" unless he contributed to the event by an act or omission done recklessly and with knowledge that damage likely would result.[66] No right of recourse may be pursued against an owner, lessor or financier of an aircraft, not an operator.[67] Moreover, no right of recourse may be pursued against a manufacturer if it proves it has complied with mandatory requirements regarding design of an aircraft, engine or its component parts.[68]

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[1] However, certain national laws, such as those of the United States, attempt to limit the liability of space transportation providers.

[2] *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies,* opened for signature Jan. 27, 1967, 19 U.S.T. 2410, T.I.A.S. 6347, 610 U.N.T.S. 205, 6 I.L.M. 386, G.A. Res. 2222 (XXI), opened for signature on 27 January 1967, entered into force on 10 October 1967, 98 ratifications (of January 1, 2007); reprinted in XXX(1) Annals of Air & Space L. 3 (2005) [hereinafter Outer Space Treaty]. http://www.unoosa.org/oosa/en/SpaceLaw/treaties.html (visited July 29, 2007). For a current list of ratifying States, see http://www.oosa.unvienna.org/oosa/en/SpaceLaw/treatystatus/index.html (visited August 22, 2009).

[3] Elizabeth Seebode Waldrop, Integration of Military and Civilian Space Assets: Legal And National Security Implications, 55 A.F. L. Rev. 157, 212 (2004); Stephen Gorove, *Liability in Space Law: An Overview*, 8 Ann. Air & Sp. L. 373 at 373 (1983); Huang Huikang, *Space Law and the Expanding Role of Private Enterprises, with Particular Attention to Launching Activities*, 5 Sing. J. Int'l & Comp. L. 55, 61 (2001).

[4] Steven Freeland, *Up, Up And . . . Back: The Emergence Of Space Tourism and its Impact on the International Law of Outer Space,* 6 Chi. J. Int'l L. 1, 15-16 (2005) [hereinafter Freeland *Up, Up And . . . Back*].

[5] Outer Space Treaty, Art. VII.

[6] *Convention on International Liability for Damage Caused by Space Objects*, opened for signature Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. 7762, 961 U.N.T.S. 187, 10 I.L.M. 965, G.A. Res. 2777 (XXVI), opened for signature on 29 March 1972, entered into force on 1 September 1972. For a current list of ratifying States, see http://www.oosa.unvienna.org/oosa/en/SpaceLaw/treatystatus/index.html (visited August 22, 2009). Professor van der Dunk observes, "the Liability Convention is effectively an elaboration of Article VII of the Outer Space Treaty and is based on the (rather unique) premise of state liability." Frans G. van der Dunk, *Passing the Buck to Rogers: International Liability Issues In Private Spaceflight,* 86 Neb. L. Rev. 400, 410 (2007); Spencer H. Bromberg, *Public Space Travel--2005: A Legal Odyssey Into The Current Regulatory Environment For United States Space Adventurers Pioneering The Final Frontier*, 70 J. Air L. & Com. 639 (2005).

[7] Whereas the standard of absolute liability is applicable for surface damage, negligence is the standard for damage caused to a person or property on board another space object "elsewhere than on the surface of the earth". Liability Convention, Art. III. *See generally*, Ezra J. Reinstein, *Owning Outer Space*, 20 NW. J. Int'l L. & Bus. 59, 77 (1999) (criticizing the failure of the treaty to define "fault").

[8] *Convention on International Liability for Damage Caused by Space Objects*, adopted by the General Assembly in its Res. 2777 (XXVI)), opened for signature on 29 March 1972, entered into force on 1 September 1972, 84 ratifications, 24 signatures, and 3 acceptances of rights and obligations (as of 1 January 2007) Art. II [hereinafter Liability Convention]. *See generally*, Dimitri Maniatis, *The Law Governing Liability for Damage Caused by Space Objects*, XXII-1 Annals of Air & Space L. 369 (1999); Marc S. Firestone, *Problems In the Resolution of Disputes Concerning Damage Caused in Outer Space*, 59 Tul. L. Rev. 747 (1985).

[9] Liability Convention Art. I(a). It is unclear whether recoverable damages include lost wages, lost profits, or non-economic damages such as pain and suffering. Punitive damages are not envisaged. See Joseph J. MacAvoy, *Nuclear Space and the Earth Environment: The Benefits, Dangers, and Legality of Nuclear Power and Propulsion in Outer Space*, 29 Wm. & Mary Envtl. L. & Pol'y Rev. 191, 226 (2004).

[10] Liability Convention Art. V(1).

[11] Liability Convention Art. VI(1). However, under Art. VI(2) this defense is not available if the activities of the launching State are not in conformity with principles of international law.

[12] *Id.* Art. VI.

[13] *Id.* Art. X, XIV-XX.

[14] *See generally*, Howard A. Baker, *Space Debris: Legal and Policy Implications* (Martinus Nijhoff Publishers, 1989).

[15] Liability Convention Art. VIII.
[16] See Freeland, *Up, Up And . . . Back.*
[17] Joseph J. MacAvoy, *Nuclear Space and the Earth Environment: The Benefits, Dangers, and Legality of Nuclear Power and Propulsion in Outer Space*, 29 Wm. & Mary Envtl. L. & Pol'y Rev. 191, 227 (2004).
[18] Joel Stroud, *Space Law Provides Insights on How the Existing Liability Framework Responds to Damages Caused by Artificial Outer Space Objects*, 37 Real Prop. Prob. & Tr. J. 363, 375 (2002). Another source concurs: "Relevant U.S. case law from incidents in Antarctica suggests that potential plaintiffs with causes of action arising in outer space could not overcome the [Federal Tort Claims Act]. Outer space qualifies as a sovereignless area, therefore, the FTCA does not recognize outer space tort claims." R. Thomas Rankin, *Space Tourism: Fanny Packs, Ugly T-Shirts, and the Law In Outer Space,* 36 Suffolk U. L. Rev. 695, 716-17 (2003).
[19] Michael Mineiro, *Assessing the Risks: Tort Liability and Risk Management in the Event of a Commercial Human Space Flight Vehicle Accident,* 74 Journal of Air L. & Com. 371, 389 (2009).
[20] Liability Convention, Art. XI(2).
[21] Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, Signed at Rome on 7 October 1952 (ICAO Doc 7364) [hereinafter *Rome Convention*].
[22] The Rome Convention of 1952 was preceded by the Rome Convention of 1933, which was the genesis of many of the later Convention's provision. The 1933 Convention at Art. 2.4 placed strict liability on the operator of the aircraft for damage caused by an aircraft in flight to persons or property on the surface. Article 3 foresaw that the only means of diminishing liability was if the damage was caused or contributed to by the negligence of the injured party.. Art. 8 established limits on liability based on the weight of the aircraft which could be breached only when the operator engaged in gross negligence or willful misconduct (Art. 14). Operators were required to carry insurance, or a guarantee (Art. 12). Plaintiff could bring suit either in the State of the operator's residence, or where the damage was caused (Art. 16). The 1933 Convention gained only five State ratifications and the 1938 Brussels Protocol which modernized the Convention attracted only two ratifications.
[23] Rome Convention Art. 1 2.
[24] *Id.* Art. 11.
[25] *Id.* Art. 6.
[26] *Id.* Art. 5.
[27] *Id.* Art. 12.
[28] Only 12 States ratified the Montreal Protocol of 1978. See Ludwig Weber, *Modernization of the Liability Regime for Surface Damage,* XXIX Annals of Air & Space L. 473, 474 (2004).
[29] ICAO Doc. LC/33-WP/3-1 ¶ 1.1 (7/01/08).
[30] ICAO Doc. LC/33-WP/3-1 ¶ 1.1 (7/01/08).
[31] ICAO Doc. LC/33-WP/3-1 ¶ 2.2 (7/01/08).
[32] Ludwig Weber, *Modernization of the Liability Regime for Surface Damage,* XXIX Annals of Air & Space L. 473, 474 (2004).
[33] ICAO Doc. LC/33-WP/3-1 ¶ 1.2 (7/01/08).
[34] Harold Caplan, *Who Should Pay for Aerial Terrorism?,* 23(3) Air & Space Law. 11 (2007).
[35] General Risks Convention Art 1; Unlawful Interference Convention Art. 2. In certain circumstances, under Art. 28, the Unlawful Interference Convention applies to damage occurring in a State non-party.
[36] General Risks Convention Art 1(f); Unlawful Interference Convention, Art. 1(f). The reference to acts outside of the scope of authority is troubling since the operator can remain liable even when an employee defies explicit instructions of the employer as to flight maneuver and navigation, for example.
[37] General Risks Convention Art 2(4); Unlawful Interference Convention, Art. 2(4). State aircraft are defined as aircraft "used in military, customs and police service . . . .".
[38] General Risks Convention Art 3; Unlawful Interference Convention Art. 3.
[39] General Risks Convention Art 3(7); Unlawful Interference Convention Art. 3(7).
[40] General Risks Convention Art 3(6); Unlawful Interference Convention Art. 3(6). Nuclear incidents are addressed in the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 1960, and nuclear damage is addressed by the Vienna Convention on Civil Liability for Nuclear Damage of 1963.
[41] General Risks Convention Art 4(1); Unlawful Interference Convention Art. 4(1).
[42] General Risks Convention Art 4(2); Unlawful Interference Convention Art. 4(1).
[43] General Risks Convention Art 6; Unlawful Interference Convention Art. 5.
[44] General Risks Convention Art. 13.
[45] General Risks Convention Art 10; Unlawful Interference Convention Art. 20.
[46] *Ospina v. Trans World Airlines, Inc.*, 975 F.2d 35 at 37 (2d Cir. 1992) (willful misconduct exists only where the airline "omitted to do an

act (1) with knowledge that the omission of that act probably would result in damage or injury, or (2) in a manner that implied a reckless disregard of the probable consequences."); *In re Korean Air Lines Disaster*, 932 F.2d 1475 at 1479 (D.C. Cir. 1983) ("wilful misconduct is the intentional performance of an act with knowledge that the act will probably result in an injury or damage, or in some manner as to imply reckless disregard of the consequences of its performance."); *Koninklijke Luchtvaart Maatschappij N.V. v. KLM Royal Dutch Airlines Holland*, 292 F.2d 775 at 778 (D.C. Cir. 1961) (wilful misconduct is "the intentional performance of an act [or omission] with knowledge that the . . . act [or omission] will probably result in injury or damage, or . . . in some manner as to imply reckless disregard of the consequences of its performance."); *Pekelis v. Transcon. & W. Air, Inc.*, 187 F.2d 122 at 124 (2d Cir. 1951) (wilful misconduct "does not mean that the defendant had a deliberate intention to kill . . . . [i]t means only that the defendant committed the act "with knowledge that the . . . act will probably result in injury or damage . . . [or] in reckless disregard of the probable consequences . . . .").

[47] *Perera Co. v. Varig Brazilian Airlines, Inc.*, 775 F.2d 21 at 23-24 (2d Cir. 1985).

[48] As the 4th Circuit Court of Appeal in the US noted, "[o]n a *mens rea* spectrum from negligence to intent, Article 25's standard is very close to the intent end. Negligence will not suffice, nor even recklessness judged objectively". *Bayer Corp. v. British Airways*, Plc, 210 F.3d 236 at 238 (4th Cir. 2000) [hereinafter *Bayer Corp.*] (citing *Piamba Cortes v. American Airlines, Inc.*, 177 F.3d 1272 at 1290-92 and 1291 n.13 (11th Cir. 1999) (internal citations omitted)).

[49] *See, e.g., In re Aircrash in Bali, Indon.*, 871 F.2d 812 (9th Cir. 1989); *Butler v. Aeromexico*, 774 F.2d 429 (11th Cir. 1985); *In re Pago-Pago Aircrash of January 30, 1974*, (9th Cir. 1982) (unreported decision); *Leroy v. Sabena Belgian World Airlines*, 344 F.2d 266 (2d Cir. 1965); *KLM Royal Dutch Airline Holland v. Tuller*, 292 F.2d 775 at 778 (D.C. Cir. 1961); *American Airlines v. Ulen*, 186 F.2d 529 at 533 (D.C. Cir. 1949); *Tarar v. Pakistan Int'l Airlines*, 554 F. Supp. 471 (S.D. Tex. 1982).

[50] These high thresholds were advocated by States seemingly opposed to ratification. As a point of comparison, in 2008, 2.2 billion passengers flew, of whom 60% were in domestic air transport.

[51] General Risks Convention Art 19(1); Unlawful Interference Convention Art. 36(1).

[52] General Risks Convention Art 16(1); Unlawful Interference Convention Art. 32(1).

[53] General Risks Convention Art 16(2); Unlawful Interference Convention Art. 32(2).

[54] General Risks Convention Art 17; Unlawful Interference Convention Art. 34.

[55] General Risks Convention Art 4(3).

[56] Article 21(2) of the Montreal Convention of 1999 provides:

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

[57] See *Paul Stephen Dempsey & Michael Milde, International Air Carrier Liability: The Montreal Convention of 1999* 208-12 (McGill 2005).

[58] General Risks Convention Art. 9.

[59] Unlawful Interference Convention, Chapter III.

[60] Unlawful Interference Convention Art. 18(2).

[61] Unlawful Interference Convention Art. 18(3).

[62] Unlawful Interference Convention Art. 23(2).

[63] Unlawful Interference Convention Art. 23(3)(4). The Convention creates a presumption of non-liability for an operator who shows it had a system to ensure compliance with the applicable regulatory requirements. The Diplomatic Conference appeared to deem applicable regulatory requirements to include at least all Annex 17 safety standards. However, these are not the applicable requirements; Annexes of the Chicago Convention do not have direct effect and do not bind airlines which are not parties to ICAO nor subject to its jurisdiction. ICAO has jurisdiction over Member States. Standards are not even absolutely binding on Member States as the Chicago Convention Article 38 reserves the right for States to file a difference. An operator should not be denied a reversal of presumption where it has complied with all national security regulation, but its home State standards validly derogate from those of Annex 17.

[64] Unlawful Interference Convention, Art. 24. It is unclear why the additional reference to "any other person was included.
[65] Unlawful Interference Convention Art. 25.
[66] Unlawful Interference Convention Art. 26. The Convention prevents the operator from bringing a recourse action against a third party where that third party could not reasonably have covered that damage by insurance. It is unclear why the aviation sector should be liable – to a cap - either through the operator or the supplementary compensation fund for the damages arising from acts of unlawful interference involving aircraft irrespective of fault, and yet the liability of other parties is subordinate to the reasonable insurability of the risk. The term "reasonable" is unclear and lends itself to widely varying subjective interpretations.
[67] The Convention contains an absolute exclusion of any action against an owner, lessor, or financier retaining title or holding security in an aircraft. A literal reading of this would therefore exclude an action against these persons even where they participated in the act of terrorism.
[68] Unlawful Interference Convention Art. 27.