ANNEX 18 TO THE CHICAGO CONVENTION

AND

THE SAFE TRANSPORT OF DANGEROUS GOODS

BY AIR

by

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In accordance with the McGill University Regulations, I declare that I am the sole author of this thesis.

ABSTRACTS

This thesis is the analysis of Annex 18 to the Chicago Convention on the Safe Transport by Air of Dangerous Goods.

Chapter one is a thorough analytical history of the international standards on the air carriage of dangerous goods, the influence of IATA and ICAO thereon on their drafting and implementation.

Chapter two concerns the regulations on the air carriage of dangerous goods in North America, in the United States and Canada, and the influence of Annex 18 thereon.

Chapter three discusses the liability involved in the carriage of dangerous goods under common law, civil law, the Warsaw system, the Chicago Convention, the North American Regulations, the conventions on nuclear materials and transfontier movements of hazardous wastes, as well as situation in other modes of transport.

RESUMÉ

Cette thèse traite de l'Annexe 18 de la Convention de Chicago sur le transport des marchandises dangereuses par air.

Le Chapitre 1 est une analyse détaillée et historique des standards internationaux sur le transport des matières dangereuses, de l'influence de l'IATA et de l'OACI à ce sujet dans leur rédaction et leur mise en oeuvre.

Le deuxième Chapitre parle de la réglementation sur les marchandises dangereuses en Amérique du Nord, aux États-Unis et au Canada, et de l'influence de l'Annexe 18 à ce sujet.

Le Chapitre trois traite de la responsabilité dans le transport des marchandises dangereuses en "common law", en droit civil, sous le système de Varsovie, la Convention de Chicago, la réglementation nord-américaine, les conventions sur les matières radioactives, sur les mouvements transfrontaliers des déchets dangereux, et de la situation dans les autres modes de transport.

TO

MADELEINE DES GROSEILLERS

AND

ARCADE GAGNE

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INTRODUCTION

We are living in a world whose economy depends on hazardous substances and their rapid carriage from one point to another. For several decades the public has been aware of problems caused by nuclear materials. Successive tragedies such as Seveso in Northern Italy (1976),[1] Bhopal in India (1984),[2] and St-Basile-le-Grand in Canada (1988),[3] have put the danger represented by many categories of dangerous products in the forefront of people's minds.

Air carriers are part of the process of transporting dangerous goods from one point of the globe to another. For some products, like radioactive pharmaceuticals used by hospitals, which have only a short lifespan, air carriage is a necessity.

Undeclared dangerous consignments remain a serious hazard for aviation. In 1986, a passenger was carrying "ethyl chloroformate" in his hand baggage destined for his

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[1] 193 injured (Dioxin release after plant explosion).

[2] 2,800 deaths, 50,000 injured, release of methyl isocyanite from ruptured tank.

[3] On 23 August 1988, a warehouse of PCB burned down, which required the evacuation of 3,000 people, damaging soil, agricultural chattel, etc.

wine bottling business. In the airplane, passengers complained of soreness of the eyes and nausea. As this product is not permitted for carriage by air, he was arrested, found guilty and fined £ 3,000 plus £ 1,000 of fine under Article 47 of the Air Navigation Order, 1985, of the United Kingdom, for having acted negligently in a manner likely to endanger an aircraft, or any person therein.[4]

Recently reported accidents include the crash of Flight 295 of South African Airways on 28 November 1987 in Indian Ocean, in which 160 passengers and the crew were killed, probably as a result of a misdeclared consignment of fireworks onboard which caught fire and which consumed the aircraft 20 minutes before the crash.[5] In the Nashville incident of February 1988, a shipment of sodium hydroxide misdeclared as "laundry equipment" leaked and came into contact with water during the flight, causing fumes and uncomfortable heat. The 125 passengers were evacuated by emergency chutes. Some had to be hospitalised. It was only when the fire crew broke into the cargo hold that the true

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[4] "Air Transport Hazardous Goods in Passenger Baggage; Milan-Manchester Flight; February 1986" Hazardous Cargo Bulletin (February 1988) 62.

[5] "South African Airways, Flight 295, November 28, 1987; 140 Miles Northwest of Mauritius in Indian Ocean" Hazardous Cargo Bulletin (July/August 1988) 80.

nature of the cargo was known.[6] In October 1988, engine failure shortly after take-off led the pilot to jettison 55,000 gallons of aviation fuel to permit safe landing, leading to the hospitalization of a woman with an eye complaint.[7]

The aim of air carriers has been never to admit liability when they comply with the regulations and take all necessary measures to avoid damages. If they had to be liable, they should have a limit of liability. The air carrier would then take benefit from the industry without assuming the risk, leaving victims of dangerous products with illusory or limited recourse. Air carriers having created a global village, it would be hard for a victim in Canada to sue a shipper in Madagascar. An old principle of law says that what is the source of profits must also be a source of responsibility: "Ubi emolumentum ibi onus".

With a view to establishing international standards on the safe transport of dangerous goods to be implemented by governments, ICAO recently adopted Annex 18 to the Chicago Convention, which became applicable on 1 January 1984, 30 years after IATA started to occupy the field of setting international standards.

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[6] "Misdeclared Cargo Again" Hazardous Cargo Bulletin (May 1988) 86.

[7] "10/10/88, JFK Airport, N.Y." Hazardous Cargo Bulletin (December 1988) 62.

This thesis will discuss how, despite all the work done on the subject by different bodies, the international community has still a long road ahead of it to achieve uniformity in rules and practices, and what the legal principles are available to resolve the problems arising therefrom.

CHAPTER I

THE ANNEX 18 TO THE CHICAGO CONVENTION

The Annex 18 of the Chicago Convention on the Safe Transport of Dangerous Goods by Air became applicable on January 1st, 1984. Considered important enough to be the subject of an independent annex to the Chicago Convention, before 1984 the air carriage of dangerous goods was nonetheless often ruled by international governmental regulations which repeated more or less recommendations made at the Paris International Conference on Air Navigation of... 1910. The whole matter was left to the air carrier industry, with many governments enacting industry regulations. For years the dangers of flying by aircraft eclipsed the danger of flying with dangerous goods, the latter being left to the industry by default.

I. BEFORE THE CHICAGO CONVENTION

A. The 1910 Paris International Conference on Air Navigation

In 1908, the French Government invited other "Power" States to an international conference on air navigation.[1] With the invitation, a questionnaire was sent on the problems to be discussed at the conference.

Question VII § 2 dealt with regulation and prohibition of the carriage of certain goods.[2] Denmark recommended to prohibit the carriage of easily flammable goods[3]. Monaco suggested that regulations should be set on restricted materials dangerous for balloons or third parties.[4] Italy proposed also that the police should be allowed to inspect aircraft to see if there were such materials on board.[5]

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[1] E. Pépin, "La Conférence de Paris de 1910 ou le premier essai de réglementer l'aviation internationale" (1978) 3 Annals of Air and Space Law 185.

[2] "Faut-il réglementer ou interdire le transport de certains objets?"

[3] Conférence internationale de navigation aérienne, **Exposé des vues des puissances d'après les mémorandums adressés au gouvernement français** (Paris: Imprimerie nationale, 1909) at 42.

[4] ibid. at 46.

[5] ibid. at 43 and 44.

The problem was then considered as a problem of customs. One of the reasons for this was the difficulty encountered by customs personnel in exercising a control over what was not arriving by normal routes, then only terrestrial or maritime. This was discussed at the Conference by the Third Commission, named "douanière". Delegates present at the Conference decided the carriage by air of explosives, arms and munitions of war should be forbidden. The "Projet d'une convention internationale relative à la navigation aérienne", established at the end of the 1910 Paris International Conference on Air Navigation, contains a chapter on customs and transport, from Articles 33 to 39, dealing with regulation and restrictions of certain goods, such as explosives.[6] It was clear at the Conference that only arms of war were

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[6] Article 35: "Le transport par aéronefs des explosifs, des armes et munitions de guerre, ainsi que des pigeons et autres oiseaux messagers, est interdit dans la circulation internationale." Article 37: "Le transport des objets autres que ceux qui sont mentionnés dans les articles 34, 35 et 36 pourra être soumis à des restrictions, pourvu que ces restrictions s'appliquent d'une manière générale aux aéronefs nationaux comme aux aéronefs étrangers; il est toutefois entendu que, pour des considérations personnelles indépendantes de la nationalité, un État pourra dispenser un aéronef de l'une de ces restrictions." Article 39: "Les prescriptions édictées en vertu des articles 34, 36, 37 et les autorisations générales accordées en vertu de l'article 38 seront immédiatement publiées et notifiées aux autres États contractants."

As to the carriage of goods in general, Article 31: "Le transport de marchandises par la voie aérienne ne peut avoir lieu qu'en vertu de conventions particulières entre les États intéressés ou des dispositions de leur propre législation".

regulated, not arms carried for the personal defence of "airnauts".[7] For the French delegation, these restrictions on freedom of international circulation were set in the interest of the police and national security.[8] With respect to this aspect, the "Projet" had a big influence on the 1919 Paris Convention.

B. The 1919 Paris Convention

During the second half of the First World War the Inter-Allied Commission of Aviation was established to deal with common problems met by the allies during the conflict. At the end of the war, it became the Inter-Allied

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[7] Conférence internationale de la navigation aérienne, Troisième Commission, première séance, 19 mai 1910, **Procès-verbaux des séances et annexes** (Paris: Imprimerie Nationale, 1910) at 387; huitième séance, 8 juin 1910, ibid. at 417.

[8] "Au principe de la libre circulation aérienne, il faut donc... apporter une restriction. Le principe doit être diminué à un double point de vue: 1o Sécurité nationale de l'État sous-jacent; 2o Sécurité des personnes et des biens des habitants de cet État... Et, afin de donner certaines garanties à la navigation aérienne, de la soustraire à tout arbitraire, à toute diversité, il importe que les restrictions au principe de la liberté soient déterminées... On peut en quelques mots résumer l'ensemble de ces restrictions:... 3o Prohibition pour les aérostats, dans un intérêt de police, de sécurité nationale ou fiscale, de transporter certains objets déterminés, au moins sans autorisation. On doit notamment citer à ce sujet les explosifs, armes et munitions de guerre..." Conférence internationale de navigation aérienne, Première Commission, deuxième séance, Annexe III, **Exposé de la délégation française sur la question de la libre circulation aérienne**, 23 mai 1910, ibid. at 243.

Aeronautical Commission of the Paris Peace Conference, which prepared the draft of a new international convention on air navigation, called the Paris Convention. This Convention was approved in 1919 and came into force in 1922. A permanent body of the League of Nations, the International Commission for Air Navigation or ICAN, was then created.[9]

1. Chapter VI on Prohibited Transport

Chapter VI of the Paris Convention dealt with prohibited transport. This Chapter repeated the propositions of the 1910 International Conference.

Article 26 stated:

> "The carriage by aircraft of explosives and of arms and munitions of war is forbidden in international navigation. No foreign aircraft shall be permitted to carry such articles between any two points in the same contracting State."

Article 27 talked about photographic apparatus and Article 28 added:

> "As a measure of public safety, the carriage of objects other than those mentioned in Articles 26 and 27 may be subjected to restrictions by any contracting State. Any such regulations shall be at once notified to the International Commission for Air Navigation, which shall communicate this

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[9] N. M. Matte, Treatise on Aero-Aeronautical Law (Montreal: McGill University, 1981) at 104.

information to the other contracting States".[10]

Article 29 concluded:

"All restrictions mentioned in Article 28 shall be applied equally to national and foreign aircraft."

Due to inconsistencies between the French and English texts, ICAN adopted a resolution on its interpretation of Article 26: all the goods referred to were goods of war.[11]

Even with this resolution, it was emphasised at an ICAN meeting that it was not clear that this prohibition "applied also to sporting arms and to explosives used, for example, in mining operations."[12] It was clear to the ICAN

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[10] "The notifications referred to in articles... 27 and 28 should be published in the "Bulletin of Information" of the I.C.A.N." ICAN, 1st Sess., 11 to 28 April 1922, Resolution No. 11, **Official Bulletin**, No. 1, August 1922 at 18.

[11] "The Commission decides to adopt the following interpretation in respect of articles 26, 28 and 29 of the Convention:

1. Article 26 of the Convention prohibits the carriage by aircraft of <explosives, arms and munitions of war> in international navigation, the French text being taken as basis.
2. The restrictions, to which, by Article 28, objects other those mentioned in Articles 26 and 27 (Explosives, arms and munitions of war, and photographic apparatus) may be subjected, apply likewise to international navigation..."

ICAN, 8th Sess., 3 to 6 April 1925, Resolution No. 228, **Official Bulletin**, No. 8, June 1925 at 34.

[12] ICAN, 16th Session (Extraordinary Session), Meeting of 11 June 1929, **Minutes**, No. 79 at 66; ICAN considered that "it would perhaps now be a good opportunity to define clearly the scope of Article 26", since its resolution had no force of law.

Legal Sub-Commission that the interpretation given was that Article 26 prohibited "explosives of war, arms of war and munitions of war". Nonetheless, the resolution had no force of law.[13]

Moreover, for many States, the ban on arms provided for in Article 26 was not practical, since often pilots needed to carry fire-arms when they were overflying uninhabited areas in Africa. Though the States overflown gave the authorizations to these pilots when required, according to Article 26, these authorizations could not delivered.[14]

For these reasons, ICAN "was unanimously of the opinion that it would be necessary to modify" Article 26 to read as follows: "The carriage by aircraft of explosives, fire-arms and munitions, as well as all engines or instruments of war referred to in the international conventions, is prohibited except by special permission of the State flown over. Nevertheless, the carriage of the explosives or engines necessary for the working or handling of the aircraft is not prohibited."

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[13] ICAN, 18th Sess., Meeting of 24 to 27 June 1930, **Report by the Legal Sub-Commission on Item 17/14 - Proposed Amendment of Article 26 of the Convention**, 8 May 1930, **Minutes**, No. 89 to 94, Annex AJ.

[14] ICAN, Operational and Materials Sub-Commission, Meetings of 24 and 25 March 1930, **Report by Doctor Molfese on Item 17/14 - Proposed Amendment of Article 26 of the Convention**, 7 March 1930, **Minutes**, No. 19, Annex E.

ICAN approved the modification, but "considering that it would not be expedient to prepare a Protocol for each modification of detail, reserved the faculty of inserting it on the first opportunity in a Protocol of amendment of the Convention"[15]. A Protocol was opened to signature on 1 June 1935 (Protocol of Brussels (1935))[16], but was never ratified.

The 39th International Aeronautical Conference, which met at the Hague in May 1938, adopted a Resolution on the carriage of fire-arms in aircraft[17], but the ICAN Legal Sub-

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[15] ICAN, 18th Sess., Meetings of 24 to 27 June 1930, Resolution No. 528, **Official Bulletin**, No. 18, November 1930, at 38.

[16] ICAN, **Protocol Dated 1st June 1935 Relating to Amendments to the Convention, Official Bulletin**, No. 23, 1935, at 168.

[17] "QEA.2. - The Conference decides that in future an application for authorisation to carry fire-arm will not be necessary if the following requirements are fulfilled:

(1) The arms shall be hand fire-arms intended for personal defence or for game-shooting.
(2) No occupant of the aircraft shall carry more than two fire-arms.
(3) The maximum number of cartridges per arm shall not exceed 50.
(4) Before departure, the arms and munitions must be sealed at the departure aerodrome by the competent authorities.
(5) The carriage of arms and munitions shall be mentioned in the journey log book with an indication of the number and nature of these arms and cartridges.

The Secretary General of the C.I.N.A. shall be advised of this resolution by the Secretary of the 39th C.A.I." ICAN, 27th Sess., Meetings of 6 to 12 June 1939, **Note by the Secretary General Concerning the carriage of Fire-arms in Aircraft, Minutes**, No. 147 to 156, Annex 97, 17 October 1938.

Commission considered that it was "at least in as far as it concerns weapons of war, in contradiction with the text, now in force, of Article 26 of the Convention and it is not certain whether this same Resolution is consistent with the new text of Article 26 which appears in the Protocol of Brussels... awaiting ratification."[18]

In June 1939, ICAN adopted a resolution to charge its sub-commissions "to a study of draft special agreements eventually making possible the carriage of Fire-arms in aircraft".[19]

It might seem normal that in 1919, after a worldwide conflict, only explosives and arms of war were considered. What is less excusable, is that these Articles were repeated in almost identical terms in the Chicago Convention and that it was only 75 years later that a set of international governmental regulations was agreed upon.

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[18] ICAN, 27th Sess., Meetings of 6 to 12 June 1939, **Report by the Legal Sub-Commission on item 27/33 - Carriage of Fire-Arms in Aircraft, Minutes**, No. 147 to 156, Annex 99, 17 January 1939.

[19] ICAN, 27th Sess., Meeting of 12 June 1939, **Minutes**, No. 155, at 174; Resolution No. 1,157, **Official Bulletin**, No. 27, at 113.

2. Annexes to the Paris Convention

The Paris Convention had 8 technical annexes (A to H) on subjects such as, airworthiness, customs, etc. With respect to their legal status, it is interesting to note that, according to Article 39, "[T]he provisions of the present convention are completed by the Annexes A to H, which, subject to Article 34(c), shall have the same effect and shall come into force at the same time as the Convention itself." Article 34(c) provided that ICAN has the duty "to amend the provisions of the Annexes A-G".

The effect of this was that international legislation was instituted. The Governments Parties to the Convention were under the obligation to follow completely the technical annexes and the amendments set by a permanent body, ICAN. This may have been one of the reasons why the United States did not adopt the Convention and preferred to convene a Pan-American conference at Havana in 1928.

C. The 1928 Havana Convention

The Havana Convention did not adopt technical annexes, or establish a permanent body. Many technical aspects were directly foreseen in the body of the Convention, though it referred often to municipal laws. For

example, the different members of the operating crew "shall, in accordance with the Laws of each State, be provided with a certificate of competency by the contracting State whose nationality the aircraft possesses... Each contracting State shall communicate to the other States parties to this Convention and to the Pan American Union its regulations governing the issuance of certificates and shall from time to time communicate any changes made therein."(Article 13).

Considering that air carriage is without boundaries and that delays may occur in the communication between States of their proper regulations, this system would, at first glance, seem chaotic if it were to be applied to the air carriage of dangerous materials.

This was nevertheless the way international law was dealing with the transport of the air carriage of dangerous goods, before the application of Annex 18 in January 1984. The only previous international standard was contained within Annex 6 of the Chicago Convention, which, prior to 1983, provided[20]:

> "3.5 Explosives and other dangerous articles other than those necessary for the operation or navigation of the aeroplane or for the safety of the personnel or passengers on board shall not be carried in an aeroplane, unless

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[20] ICAO, Air Navigation Commission, **Amendment to Annex 6 for Alignment with Annex 18**, ICAO Doc. AN/WP 5372, 3 June 1982, App. A, at A-1.

> the carriage of such articles is approved by the State of Registry of the aeroplane and they are packaged and labelled in accordance with the regulations approved by that State.
> Note 1. Flammable liquids or solids, oxidizing materials, corrosive liquids, flammable or non-flammable compressed gas, poison gas, poisonous liquid or solid, or tear gas and radioactive materials are, inter alia, considered dangerous articles; certain articles may become dangerous when in proximity to other articles.
> Note 2. Article 35 of the Convention refers to certain classes of cargo restriction."

This is a good illustration of how slowly international law sometimes evolves. It also shows the need for international standards for the air carriage of dangerous goods adopted by an international government organization was soon eclipsed by other priorities.

History was repeating itself. When a new mode of transportation, the railway, was introduced in the ninetienth century, States preferred to wait before the appearance of regulations. This attitude in the first half of the XXIXth century towards railroads was repeated more than a century later with respect to airways, but, in the latter case, only after a long delay.

Following a railroad catastrophe on 8 May 1842, the "ministre secrtaire d'tat des travaux publics" S. Dumon, wrote the King of France to explain to him that until now, the railway experience had been too recent to enable him to have presented police regulations. The times had changed.

Accidents were now numerous and the time had come to set measures to be observed on railroads.[21]

This report was followed by the **Ordonnance du roi** of 15 November 1846, prohibiting the carriage of goods capable of causing explosions or fire during the carriage of passengers, and obliging consignors of such goods to disclose the dangerous nature of their goods.[22]

In the maritime transport in the XIXth century, merchants were concerned with the discrepancies in regulations adopted by different countries, concluding that there was a need for uniformity at the international basis.

The 7th International Congress of Applied Chemistry, held in London in 1909, issued a report entitled "The Transport of Dangerous Goods on Merchant Vessels", on the necessity of unifying international regulations for the transport of dangerous goods by water.

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[21] Carette A.-A. et al., **Lois Annotes, 2e Srie 1831-1848** (Paris: Bachelier, 1848) 1846 at 106.

[22] Art. 21: "Il est dfendu d'admettre, dans les convois qui portent des voyageurs, aucune matire pouvant donner lieu soit des explosions, soit des incendies." Art. 66: "Les personnes qui voudront expdier des marchandises de la nature de celles qui sont mentionnes l'article 21 devront les dclarer au moment o elles les apporteront dans les stations du chemin de fer. Des mesures spciales de prcaution seront prescrites, s'il y a lieu, pour le transport desdites marchandises, la compagnie entendue." **Ordonnance du roi portant rglement sur la police, la sret et l'exploitation des chemins de fer**, 15 novembre 1846, ibid.

The 1948 Conference on Safety of Life at Sea adopted Recommendation 22 - Carriage of Dangerous Goods:

> "The Conference recognizes the great importance of securing international uniformity in the safety precautions applicable to the carriage of dangerous goods by sea... The Conference recognizes that the subject should receive further study as a matter of urgency... with the object of international regulations being drafted as soon as possible for consideration and adoption by the Government of all countries from which dangerous goods are exported..."[23]

There was nonetheless no sense of urgency at the Chicago Conference, where was adopted the Chicago Convention. This Convention replaced the Paris and Havana Conventions.[24]

II. THE CHICAGO CONFERENCE OF 1944 AND THE CREATION OF ICAO

On 11 September 1944, the Government of the United States invited countries to an international civil aviation conference. It said that there was "a substantial measure

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[23] See **Note by the Secretary General, Transport of Dangerous Goods**, UN Doc. E/CN.2/97, 29 December 1950, at 12.

[24] Article 80 of the Chicago Convention: "...As between contracting States, this Convention supersedes the Conventions of Paris and Habana..."

of agreement on such topics such as... the need for uniform operating and safety standards."[25]

It was held that the Conference should establish, inter alia, an Interim Council under the supervision of which a central technical committee would "consider the whole field of technical matters including standards, procedures and minimum requirements".[26] Such a committee was set up on Technical Standards and Procedures, for the creation of international technical standards and procedures. Nonetheless, in the definitive agenda of the Conference, the field of "regulated goods" was not referred to.

The Proposals for provisions on prohibited transport were a repetition of Articles 26 to 29 of the Paris Convention.[27] A subcommittee referred to the drafting committee these Articles with the following suggestions: (1) that the extent to which the words "of war" condition "explosives" and "munitions" be clarified; (2) that prohibited carriage be defined so as to exclude sporting rifles, small arms and binoculars; (3) that provision be

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[25] "Invitation of the United States of America to the Conference", in **Proceedings of the International Civil Aviation Conference**, vol. 1 (U.S. Government Printing Office: Chicago, 1948) at 11.

[26] ibid. at 12.

[27] See "United States Proposal of a Convention on Air Navigation" at Article 18, ibid. at 560.

made for the carriage of explosives of a commercial character; (4) that a reference to the carriage of munitions on behalf of the world security organization be included."[28]

A. Adoption of Article 35

As in the Paris Convention, only implements of war were to be prohibited. The Conference decided to remove the category of "explosives" from the kinds of goods which were prohibited for carriage. It was decided to include them in a following paragraph which leaves to the States the power to regulate goods other than those goods of war prohibited for carriage in the first subparagraph.[29]

The Conference concluded that dangerous goods other than munitions of war should be left to the good-will of each State to regulate. The first subparagraph of what is now Article 35 says what "may not be carried", while the second subparagraph states that "each contracting State reserves the right... to regulate or prohibit the carriage... of articles other than those enumerated in paragraph (a)..."

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[28] Minutes of Meeting of Subcommittee 2 of Committee 1, 11 November 1944, Document 176, ibid. at 681.

[29] Document 356, ibid. at 674.

The previous version of the first subparagraph provided that, in determining by regulation what constitute munitions or implements of war for the purposes of this Article, the "Contracting States undertake to conform in these determinations to the greatest extent with the recommendations of the Council."[30] The final version merely mentions that States shall give due consideration for the purposes of uniformity.[31]

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[30] Minutes of Meeting of Subcommittee 2 of Committee 1, 30 November 1944, Document 449, ibid. at 688.

[31] Article 35 of the Chicago Convention reads as the following: "(a) No munitions of war or implements of war may be carried in or above the territory of a State in aircraft engaged in international navigation, except by permission of such State. Each State shall determine by regulations what constitutes munitions of war or implements of war for the purposes of this Article, giving due consideration, for the purposes of uniformity, to such recommendations as the International Civil Aviation Organization may from time to time make.

(b) Each contracting State reserves the right, for reasons of public order and safety, to regulate or prohibit the carriage in or above its territory of articles other than those enumerated in paragraph (a): provided that no distinction is make in this respect between its national aircraft engaged in international navigation and the aircraft of the other States so engaged; and provided further that no restriction shall be imposed which may interfere with the carriage and use on aircraft of apparatus necessary for the operation or navigation of the aircraft or the safety of the personnel or passengers."

B. The Annex 6 to the Chicago Convention

The Conference prepared drafts of technical annexes to the Convention to be studied by the technical committees established by the Provisional ICAO body it instituted.

Following the recommendations of Committee II of the Conference (Technical Standards and Procedures), the U.S. produced a draft of "Annex O" on regulations governing international air service operations,[32] which was the working document for the draft of Annex 6.

The Operations Division studied the draft of standards and recommended practices on the Operation of Aircraft. This dealt only with scheduled flights. In the memorandum for the study of operations requirements for non-scheduled flights,[33] it included the revised U.S. draft of

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[32] Provisional International Civil Aviation Organization, Technical Committee on International Operating Standards, **United States Proposed Draft Technical Annex O Regulations Governing International Air Service Operations**, PICAO Doc. 157-AN/35, 3 October 1945.

[33] Operations Division, 1st Sess., Minutes of the 12th Meeting, 20 February 1946, PICAO Doc. 1374-OPS/42, 22 February 1946, at 3 para. 9. Under Article 5 of the Chicago Convention, non-scheduled flights have the rights ot make flights into the territory of other States, without prior permission, (while scheduled international flights must have the special permission for it, Article 6). Article 5 adds that each contracting States reserves the right to require the non-scheduled international flights to obtain special permission, so in reality these flights are often even more restricted than the scheduled ones.

"Operations Standards Applicable to All Aircraft".[34] This draft contained a provision allowing the pilot-in-command to prohibit certain dangerous goods, except as approved by the Competent Authority.[35] The Division removed this duty from the pilot-in-command and set a more general prohibition in the final report of the Annex for both scheduled and non-scheduled flights.[36]

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[34] Operations Division, 1st Sess., **Part I Chairman's Interim Report**, PICAO Doc. 1534-OPS/68, 15 April 1946, at 3 para. 3.

[35] "The Pilot-in-command shall not permit explosives, or other dangerous articles such as inflammable liquids or solids, oxidizing material, corrosive liquid, inflammable or non-inflammable compressed gas, poison gas or liquid, poisonous liquid or solid, or tear gas to be carried in the aeroplane except as approved by the Competent Authority. In no case shall such articles be permitted in aeroplanes carrying passengers, or when operating into, or out of, airports where such carriage will endanger the public. Small arms ammunition for personal use, necessary aeroplane signaling devices and equipment necessary to safe operation of the aeroplane are permitted." Operations Division, **Memoranda for a Study of Operations Requirements for Non-Scheduled Operations**, PICAO Doc. 1383-OPS/44, 23 February 1946, at 22, Chap. VI Operating Rules, para. 6 Transportation of Explosives and Other Dangerous Articles.

[36] Operations Division, 2nd Sess., **Final Report**, ICAO Doc. 3030-OPS/145, 2 April 1947, at para. 6.8.1 for scheduled and para. 6.6 for non-scheduled.
6.8.1: Explosives or other dangerous articles such as inflammable liquids or solids, oxidizing material, corrosive liquids, inflammable or non-inflammable compressed gas, poison gas or liquid, poisonous liquid or solid or tear gas shall not be carried in aircraft except as approved by the State of Registry and the appropriate authority entered, provided that,-
6.8.2: Small arms for personal use and approved signalling devices and equipment necessary to the safe operation of the aircraft may be carried in a manner approved by the Registering Authority.

With respect to the United Kingdom, the insertion of this provision in Annex 2 on the Rules of the Air than on Annex 6 on Operation was considered to be more appropriate, since this provision should apply not only international flights but to all flights in the interests of the safety of air traffic and persons on the ground.[37]

In discussing this Report, the Representatives to the Air Navigation Committee noted that it was difficult to determine which articles were dangerous. Some goods were dangerous only when in proximity with others. It was suggested that an informative booklet should be available. As well serious safety problems could exist due to the fact passengers were in the same air circulating system as the luggage compartment. Finally, it was concluded that there was an absence of mutual understanding between States on this complex subject.[38]

There was many discussions on the wording of this Standard of the new Annex. The Air Navigation Committee suggested that dangerous goods should not be carried except

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[37] Provisional International Civil Aviation Organization, Operations Division, 2nd Sess., **Proposed Draft for General Requirements for Operations Standards**, PICAO Doc. 2413-OPS/105, 5 December 1946, at 24.

[38] Air Navigation Committee, 4th Sess., Minutes of the 11th Meeting, 24 September 1948, ICAO Doc. 6170-AN/691, 1 October 1948, at 2 and 3.

as approved by both the State of Registry and each State whose territory is entered.[39]

In the Council, a Member stressed the fact that the Standard and accompanying Notes were incomplete. The document did not say what dangerous goods were and who should make this decision. It did not specify which liquid gases or solids were dangerous, or if they were only dangerous in certain circumstances.[40] In addition,

> "an Annex could not list what goods were dangerous, nor go into the details of how they should be packed, but it might be done in a supplement to the Annex or in a separate booklet... IATA might be asked to prepare such a booklet and submit it to ICAO for approval. There was a crying need for something of the sort, and operators would be most grateful for anything that the Organization might do to meet it."[41]

There was a lengthy discussion on the necessary approval of the overflown State. The main objection was that Article 35 b) already provided this State with a right to make regulations on carriage of dangerous goods, and "it

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[39] Air Navigation Committee, 4th Sess., Minutes of the 46th Meeting, 10 November 1948, ICAO Doc. 6324-AN/745, 9 December 1948, at 2. **Standards and Recommended Practices for Operation of Aircraft in Scheduled Public Air Transport**, ICAO Doc. 6274-AN/726, 15 November 1948, at 9 para. 2.3.

[40] Council, 5th Sess., Minutes of the 25th Meeting, 30 November 1948, ICAO Doc. 6379-C/735, 3 January 1949, at 14.

[41] Council, 5th Sess., Minutes of the 25th Meeting, 8 December 1948, ICAO Doc. 6379-C/735, 3 January 1949, at 113.

was unnecessary and undesirable to impose on them the obligation to make such regulations".[42]

The ICAO Council adopted Annex 6 entitled "Standards and Recommended Practices for the Operation of Aircraft" on 10 December 1948,[43] to come into effect on 15 July 1949. It contained a provision on dangerous articles, which remained almost unchanged until 1983 when Annex 18 was adopted:

> "2.4 Explosives and other dangerous articles other than those necessary for the operation or navigation of the aircraft or for the safety of the personnel or passengers on board shall not be carried in an aircraft, unless the carriage of such articles is approved by the State of Registry of the aircraft."[44]

This provision was numerated 3.5 by an amendment adopted by the Council on 5 December 1950.[45]

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[42] ibid.

[43] Council, 5th Sess., Proceedings of the Council, ICAO Doc. 6544-C/742, February 1949, at 56.

[44] "Note 1. Inflammable liquids or solids, oxidizing materials, corrosive liquids, inflammable or non-inflammable compressed gas, poison gas or liquid, poisonous liquid or solid or tear gas are, inter alia, considered dangerous articles; certain articles may become dangerous when in proximity to other articles.

Note 2. Article 35 of the Convention stipulates the conditions in which certain articles may or may not be carried by aircraft engaged in international navigation."

[45] Council, 11th Sess., Amendment No. 13, Proceedings of the Council, ICAO Doc. 7188-C/828, September 1951, at 26.

C. Proposals for Amendments

1. British Proposals

The final result was not satisfactory to all States. At the second assembly of the Provisional ICAO, the United Kingdom submitted a proposal to the effect that ICAO should consider the effect of Article 35(b) on the carriage of certain goods necessary to ensure the safe and regular operation of international air services, or urgently required for other reasons.

The United Kingdom considered that Article 35(b) reserved to contracting States a right which, in certain circumstances, they should not exercise. It was often impossible to obtain an authorization for aircraft carrying dangerous goods not necessary to ensure the safe operation of the aircraft.[46] The United Kingdom proposed a multilateral agreement for the mutual "recognition of permits issued by the contracting State of registration of the carrying aircraft so that prior permission would not be

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[46] With the agreement of the UK delegation, the Economic Commission decided to confine the subject-matter "to dangerous goods of which the carriage by air is necessary to ensure the safe and regular operation of international air services." Assembly, 2nd Sess., Executive Committee, **Proposed New Item for the Agenda, Report by the Chairman of the Economic Commission**, ICAO Doc. 5588 A2-EC/31, 10 June 1948.

necessary from each of contracting States which are overflown or in which the aircraft lands."[47]

The U.K. proposal was for the category of dangerous goods, which are "Goods of which the carriage by air is necessary (a) to ensure the safe and regular operation of an international air service, or (b) for medical or other humanitarian purposes." Contracting States should not exercise their right reserved to them by Article 35(b) to prohibit or regulate, if a permit was granted by the competent authority of the State of registry, upon the conditions provided in Part II of the Schedule of the proposal.[48]

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[47] Assembly, 2nd Sess., Economic Commission, **Proposed New Item for the Agenda, Carriage by Air of Dangerous Goods (Article 35 (b) of the Convention)**, ICAO Doc. 5555 A2-EC/21, 8 June 1948. A bilateral agreement on this matter was signed between the United Kingdom and Switzerland in 1948. See P. Martin **et al.**, eds, **Shawcross and Beaumont, Air Law**, 4th edition, vol. 1 (London: Butterworths, 1977) at 197.

[48] "The permit, which shall be carried by the pilot of the carrying aircraft and shall be available at all times for inspection, shall require compliance with the following conditions: a) The materials or articles shall be packed and marked in accordance with regulations, applicable to the carriage of like goods, of the State in which the carrying aircraft is registered; b) each package or container shall be plainly marked on the outside to state the nature, quantity and weight of the contents and instructions for handling; c) the consignor shall give to the carrier, or the carrier shall prepare, a consignment note stating the nature, quantity and weight of the consignment. The consignment note shall be printed in red and shall bear in prominent red letters the words "Dangerous Goods". The consignment note shall accompany the consignment; d) the package of containers shall where practicable be carried in a compartment of the aircraft which is not accessible to

In Resolution A2-11, the Assembly directed the Council to study the British proposals and to "recommend to Assembly in 1950 such amendments to the Convention as may appear necessary as a result of the study."[49]

2. Reactions: Amended Convention or New Annex

For a Council member, "this was not the sort of material that could be incorporated in an Annex"[50]. Others were not of the same opinion.

At that time, the carriage of dangerous goods by air was not generally accepted and many countries were not

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passengers during flight and shall be secured in such manner as to prevent movement inside the aircraft; e) the pilot in command of the aircraft shall be instructed as to the nature, quantity and weight of the consignment and the position and manner of storage." ICAO Doc. 5555 A2-EC/21, 8 June 1948.

[49] "NOW THEREFORE THE ASSEMBLY RESOLVES: 1. That the Council should study the proposals of the Delegation of the United Kingdom... and take such action as may appear desirable as a result of the study including, if required, a request to Contracting States to give special consideration to the carriage of goods by air, the urgent carriage of which may be necessary to ensure the safe and regular operation of international air services, or the urgent carriage of which may be necessary for other reasons;..." Assembly, 2nd Sess., **Resolutions and Recommendations of the 2nd Assembly**, ICAO Doc. 5692 A2-P/37, 21 June 1948, at 8 and 9.

[50] "but wished to underline the importance of taking steps to secure at an early date a common understanding on what explosive and dangerous goods were". Council, 5th Sess., Minutes of the 25th Meeting, 30 November 1948, ICAO Doc. 6379- C/735, 3 January 1949, at 14.

ready to waive their rights; there was then no general agreement on the changes to be made.[51]

The United States representative was not able to support the British proposals. It was considered that American standards were the best minimum acceptable level of safety. If the "requirements for packing and marking would left wholly to regulations of the State of registry of the carrying aircraft",[52] the success of the domestic program for safety of operations in the U.S. would be endangered and U.S. carriers who would be required to "adhere to a higher level" would be penalized.

For this reason, the U.S. proposed that modifications to Article 35(b) should be in accordance with "a general agreement on international standards for the packaging, lashing, and handling of the dangerous goods"[53], and that such standards be incorporated in an OPS (Operational Practices) Annex, and the question referred to

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[51] Council, 51th Sess., **The Question of Carriage of Dangerous Goods**, ICAO Doc. C-WP/3929, 11 February 1964.

[52] Council, 6th Sess., **Carriage by Air of Articles Required to Ensure the Safe and Regular Operations of International Air Services (Article 35 (b) of the Convention)**, ICAO Doc. C-WP/231, 7 March 1949, at 1.

[53] ibid.

the Air Navigation Commission. This position was accepted by the Council, but there was some skepticism.[54]

Other American objections were: the lack of precision in the expression "for medical or other humanitarian reasons" contained in the proposal; the fact that even if they accepted the others' certificate, they would not relinquish any right to control, only alter the means of the control and the problem of the substitution of laws of the State of registry for those of the State overflown.

The Air Navigation Commission concluded that the question fell into three parts:

> (1) Carriage of dangerous goods required for the operation of aircraft;
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> (2) Dangerous goods required for humanitarian reasons; and
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> (3) Carriage of dangerous goods for hire or reward.[55]

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[54] The UK representative was "doubtful... whether it would be possible to deal effectively with the practical problem by a Standard in the OPS Annex, since Article 35... expressly reserved to Contracting States the right to regulate or prohibit the carriage in or above its territory of articles other than implements of war and munitions of war." Council, 6th Sess., Minutes of the 8th Meeting, 28 March 1949, ICAO Doc. 6767-C/783, 18 May 1949, at 13 and 14.

[55] Air Navigation Commission, 1st Sess., Minutes of the 47th Meeting, 22 April 1949, ICAO Doc. 6733 AN/813, 9 May 1949, at 5.

Because of their immediate concern with safety, the Air Navigation Commission decided to confine its work to the first two parts, directing the Secretariat to prepare a paper based on information collected from the States and to make proposals.[56]

In his report, the Assistant Secretary General for Air Navigation of ICAO wrote that Article 35(b) did "not prohibit the carriage by air of dangerous goods over territories of States other than the State of Registry of the carrying aircraft", nor did it specifically reserve a right to require prior permission to carry any articles, other than munitions or implements of war, contrary to what seemed to be implied in the U.K. proposals.[57]

He suggested that a compromise between the U.K. and the U.S.A. would be to amend Annex 6 for the withdrawal or waiving of requirements for prior permission to be obtained before carrying any goods, other than munitions or implements of war, by air.

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[56] ibid. A letter was dispatched on 29 July 1949 to States inviting them to provide information on their laws and regulations.

[57] Air Navigation Commission, 4th Sess., **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/399, 20 April 1950. A look at the International Convention on Safety of life at Sea indicated that States did not require prior permission for the carriage of dangerous goods by sea into their territorial waters; there was a reliance upon the individual responsibility of shippers and carriers to comply with applicable regulations. The Rome Convention on the Transport of Goods by Rail was also silent on prior permission.

He suggested also that the Commission could consider the suitability of the suggested amendment to Annex 6, which stated that approval should not be given for the carriage of any materials or articles the carriage of which by air may be prohibited by the State intended to be overflown.[58]

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[58] Suggested addition to paragraph 2.4 (actually numerated 3.5) of Annex 6:

2.4.1. Approval for the carriage of any materials or articles the carriage of which by air may be prohibited by any States intended to be overflown shall not be given for carriage of such materials or articles in the airspace of that State.

2.4.2. Approval for the carriage of any materials or articles, the carriage of which by air may be regulated but not prohibited by any State to be overflown shall be in the form of a permit issued by the State of Registry certifying that the shipper and carrier are familiar with the laws and regulations of States to be overflown and that the State of Registry is satisfied that such laws and regulations will not be infringed.

2.4.3. Before accepting for carriage any materials or articles the carriage of which by air may be regulated by any State intended to be overflown an operator shall ensure that:

(a) such materials or articles are so packed, marked, handled, stowed and manifested as to comply with the laws and regulations of all States intended to be overflown, and in any case

(b) each package or container is plainly marked on the outside to state the nature, quantity and weight of the contents including instructions for handling,

(c) the consignor provides or that there is prepared a consignment note stating the nature, quantity and weight of the consignment, which shall be printed in red and shall bear in prominent red letters the words "Dangerous Goods" and shall accompany the consignment,

(d) the packages or containers are, where practicable, carried in a compartment of the aircraft which is not accessible to passengers during flight and are secured in such a manner to prevent movement inside the aircraft, and

He recommended that Article 35(b) remain unchanged. He further invited the Commission to consider whether to inform the Assembly that the carriage of dangerous goods for hire and reward should be studied on a long-term basis with a view to preparing detailed specifications covering the carriage of such goods.

At the Air Navigation Commission, there was general acceptance of the proposed amendment to Annex 6 but "it was agreed that it would be premature to refer the matter in its present undigested state to the OPS Division"[59], asking the Secretariat for a further paper.

The IATA observer to the meeting said that a special working group had been set up in February 1950 to study the question and this study was now before the IATA Conference in Madrid. It was hoped that the study would be accepted as the recommended practice to be included in IATA's conditions of carriage and that State acceptance of these regulations would be achieved. "Carriers would then be in a position to set up the necessary machinery, subject to local government requirements." For the Air Navigation Commission Chairman,

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> (e) the pilot-in-command of the aircraft is instructed as to the nature, quantity and weight of the consignment, and the position and manner of stowage." ibid. at 7.

[59] Air Navigation Commission, 4th Sess., Minutes of the 9th Meeting, 15 May 1950, ICAO Doc. AN-WP/MIN IV-9, 28 June 1950, at 46.

"it would be economical of effort if the two organizations, each within its own sphere, could proceed along the same lines in their study."[60]

After considering the Secretariat paper[61], some members of the Commission were of the opinion that the magnitude of the problem emphasized the need for action by the Commission. Others felt "no attempt should be made to formulate detailed SARPs [Standards and Recommended Practices], which would only serve to shackle civil air transport; ICAO should, at the most, issue a circular on current usage in the more advanced States, for the information of all States."[62]

The Secretariat submitted four alternatives.[63] The Commission's members decided to limit their discussions to the drafting of broad and general principles complying with Article 35, since IATA had expressed its hope to see an

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[60] ibid. at 47.

[61] Air Navigation Commission, 6th Sess., **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/557, 11 January 1951.

[62] Air Navigation Commission, 8th Sess., Minutes of the 8th Meeting, 1 October 1951, ICAO Doc. AN-WP/MIN VIII-8, 15 October 1951, at 43 and 44.

[63] (1) Status quo; (2) draft rather broad and general provisions comparable to those contained in Regulation 3 of Chapter VI of the International Convention for the Safety of Life at Sea; (3) incorporate some existing group of specifications by reference; (4) include in an Annex sufficiently precise specifications. Air Navigation Commission, 9th Sess., **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/739, 27 December 1951, at 3.

agreement among its member airlines at the Technical Conference of Copenhagen (May 1952). The Commission agreed that the Secretariat should draft SARPs for the Commission's consideration after the IATA conference.[64]

In November 1952, the Commission supported the idea of establishing a small working group, noting that "IATA had done excellent work on the subject and ICAO should confine itself to broad principles. Any direction to the Working Group should emphasize that point." It agreed that ICAO should accept responsibility for the establishment of regulations for the carriage of dangerous goods by air.[65]

The Commission assigned the Working Group with the task to consider different methods, the types of regulations to be desired and the terms of reference for the second stage of discussion, which would include the drafting of appropriate standards and recommended practices.[66]

At the 7th ICAO General Assembly of 1953, the Air Navigation Commission presented a paper where it concluded:

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[64] Air Navigation Commission, 9th Sess., Minutes of the 1st Meeting, 29 January 1952, ICAO Doc. AN-WP/MIN IX-1, 4 February 1952, at 4.

[65] Air Navigation Commission, 11th Sess., Minutes of the 35th Meeting, 27 November 1952, ICAO Doc. AN-WP/MIN XI-35, 6 January 1953, at 156.

[66] Air Navigation Commission, 11th Sess., Minutes of the 38th Meeting, 3 December 1952, ICAO Doc. AN-WP/MIN XI-38, 12 January 1953, at 172.

> "(1) that the purpose of carriage is not relevant to the basic issues; and (2) that a uniform schedule governing the acceptability of dangerous goods for carriage by air will eventually be required... since any restriction on the free movement of goods arising from this right [35(b)] is not causing undue difficulties, the development of such a schedule should not anticipate by too great a period the requirement upon which it is based."[67]

3. Development of Standards and Recommended Practices

At the 1952 meeting of the IATA Restricted Articles Working Group, the ICAO observer realized how poorly ICAO was equipped to handle the issues. The other observers had with them the CIM[68] regulations, national maritime or road regulations: ICAO had only paragraph 3.5 of Annex 6 and

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[67] Assembly, 7th Sess., Technical Commission, **Supplementary Report Related to the Activities of ICAO in the Technical Field during the Period of 1950-1952 Inclusive**, ICAO Doc. A7-WP/30 TE/6, 23 March 1953, at 9. The Air Navigation Commission Chairman had previously informed the Council that "at the present time it appears that any restriction of the free movement of goods arising from this right has been generally reasonable and is not causing undue difficulties to international air transport operations." Council, 8th Sess., 262nd **Report to Council by the Chairman of the Air Navigation Commission Arising from the 6th Meeting of its 12th Session Held on 2 February 1953. Subject No. 35: Restriction on Carriage by Air of Articles which, though Classed as "Dangerous", Are Necessary for the Safe and Regular Operation of International Air Services (Article 35 (b) of the Convention) (ANC Item 23)**, ICAO Doc. C-WP/1383, 2 February 1953.

[68] International Convention Concerning the Carriage of Goods by Rail.

Chapter 4 of Annex 9, the latter being provisions with respect to entry and departure of cargo in general (cargo manifest).

During that time, the Universal Post Union requested ICAO undertake a study to create a list of goods and of restrictions. The World Health Organization asked ICAO for regulations for the handling, packing and labelling of dangerous goods.

a. Working Group on the Carriage by Air of Dangerous Goods

The Air Navigation Commission Working Group held its first meeting on 30 January 1953. It stated that the "only obvious reason... for ICAO to undertake to standardize the conditions of carriage of dangerous goods so as to minimize any hazard arising from their shipment is to facilitate such shipments". Had the protection of civil aviation been the objective, an "each time" permission would have served the purpose. The facilitation of those shipments was the only valid reason to go beyond the text of Annex 6.[69]

Since ICAO had no specialist in its staff on this subject, it decided to use the list prepared by IATA as a basic working document, "since it has been drawn up by

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[69] Air Navigation Commission, 12th Sess., Working Group on the Carriage of Dangerous Goods, **Objective and Method of Approach**, ICAO Doc. AN-WG/DAG/1, 23 January 1953, at 1.

experts and has been subjected to scrutiny from various national viewpoints as well as with the special characteristics of air carriage in mind."[70] The Air Navigation Commission had directed the working group that "IATA had done excellent work on the subject and ICAO should confine itself to broad principles".[71]

The fear was expressed that ICAO's action and the anticipated emergence of significant amount of traffic of dangerous goods might push the States to overregulate the transport of dangerous goods.[72]

If ICAO were to lag behind in the creation of its regulations, States would have problems in obtaining uniformity. It is hard to see what the basis for that fear was, later shown to be unsound, having regard to the little action that was undertaken by States.

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[70] ibid. at 3.

[71] Air Navigation Commission, 11th Sess., Minutes of the 35th Meeting, 27 November 1952, ICAO Doc. AN-WP/MIN IX-35, 6 January 1953, at 156.

[72] "the fear was expressed that... further action by ICAO at this time might result in overstimulating States to regulate the movement of such goods and therefore in defeating the object of the action taken. ICAO position must be established in advance, by the time such a demand becomes pressing, then the Organization will be in a position of leadership in clearing the way to meet this demand." Air Navigation Commission, 12th Sess., Working Group on the Carriage of Dangerous Group, ICAO Doc. AN-WG/DAG/2, 6 February 1953, at 1.

There was some doubt as to the reasonableness of of using the IATA regulations as a basis for ICAO's actions. It was said that the responsibility of the shipper or the carrier would have to be assigned, but on a technical basis, since its work was one of prevention.[73]

This matter was discussed at the IATA Working Group meeting at Copenhagen, where IATA proposed that the shipper be held responsible for the classification, packing, marking and certification of the goods. In a letter sent to the Air Navigation Commission Working Group, the Australian Government said that this proposition was against its own regulations, which put this responsibility upon the airline, the expert on this matter and not on the private individual sending the package.[74]

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[73] ibid. at 2.

[74] "The shipper in many cases is a private individual who cannot be expected to be familiar with Departmental regulations, or the classification and coding of cargoes. The airline, on the other hand, cannot reasonably be expected to open and verify the contents and packaging of every consignment. The most reasonable arrangement would seem to be that both shipper and carrier should carry a defined part of responsibility. The shipper could be responsible for the declaration of the contents of the consignment and the method of packing. Responsibility for classifying, labelling, and determining compliance with requirements, should remain with the airline. The decision as to whether the cargo is acceptable for passenger carrying or cargo aircraft should also be an airline responsibility. The type of aircraft on which the goods are to be transported could have an influence on this decision, and it is certainly outside the knowledge of the shipper." Air Navigation Commission, 12th Sess., Working Group on the Carriage of Dangerous Goods, ICAO Doc. AN-WG/DAG/3, 2 March

The answer of the IATA's Secretariat was that member airlines would not agree to take the sole responsibility for the observance of regulations, the shipper being often a person who was familiar with the nature of the goods.[75]

b. Passive Role

The Working Group had written in its report to the Commission and Council that it could "be said that the responsibility for international action concerning the carriage of dangerous goods by air must, because of Article

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1953, at 1.

[75] "In our opinion, our Member airlines would not be prepared to undertake sole responsibility for classifying, labelling and determining compliance with requirements, with the shipper only being responsible for declaration of contents and method of packing. While carriers are willing to assist the shipper as much as possible, and, in fact, that is one of the reasons why the IATA Regulations have been drawn up, they feel that responsibility for compliance must rest with the shipper of the goods. In most case, the consignor of the shipment is the manufacturer himself who is completely familiar with the nature of the goods, i.e., trade name, complete chemical formula ,etc. Additionally, the shipper may be expected to have complete knowledge of the classification and labelling required in that he must in most cases be bound to effect similar arrangements for ground transportation in the airport or airline office. This latter requirement is basic to the U.S.A. regulations." Air Navigation Commission, 14th Sess., Working Group on the Carriage of Dangerous Goods, ICAO Doc. AN-WG/DAG/5, 24 June 1953, at 1.

35 (b) of the Convention, remain with the Organization".[76] Nonetheless, it recommended awaiting the reaction of States to the IATA regulations before taking further action.

The IATA Restricted Articles Regulations became effective on 1 January 1956, binding member airlines by Traffic Conference Resolution 618.

The Working Group believed that the regulations would become part of the IATA tariffs, and that those tariffs would be submitted by the member airlines to their respective governments which would approve them. It noted that this was the procedure that the airlines, the governments and ICAO seemed to be satisfied with:

> "The foregoing mechanism appears to be serving the objectives of the operators to their satisfaction, hence they are not anxious for ICAO to take any action respecting the carriage of dangerous goods... little interest has been displayed by States in availing themselves of the Organization's facilities to deal with this problem and neither the Assembly, where the problem was first presented, nor the Council, which referred it to the Commission, has since indicated it to be of any urgency."[77]

One of the alternative submitted to the Air Navigation Commission was "to conclude that any problem that

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[76] Air Navigation Commission, 12th Sess., **First Report of the Working Group on Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/931, 30 January 1953, at 2.

[77] Air Navigation Commission, 14th Sess., Working Group on the Carriage of Dangerous Goods, ICAO Doc. AN-WG/DAG/7, 9 November 1953, at 2.

may have existed in the past is being satisfactorily dealt with" by IATA and the Transport and Communications Commission of the United Nations, "and that consequently the matter requires no further action by ICAO."[78]

The Commission noted the Working Group's suggestion that any action should await States' comments on the acceptability of the IATA regulations, since the first phase of establishing uniform conditions for the carriage of dangerous goods by air was progressing satisfactorily,[79] and agreed that the Group continued to watch the progress in this field.[80]

It was agreed that IATA would be responsible for the regulation of the carriage of dangerous goods by air. The Trade and Communications Commission of the Economic and Social Council would assume responsibility for maintaining uniforme rules for carriage by all means of transport.

The Commission wrote the Director of Transport and Communications Division, United Nations, that ICAO agreed with their objectives on the problem and "therefore does not

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[78] ibid.

[79] Air Navigation Commission, 14th Sess., **Second Report of Working Group on Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/1072, 14 December 1953.

[80] Air Navigation Commission, 14th Sess., Minutes of the 30th Meeting, 17 December 1953, ICAO Doc. AN-WP/MIN XIV-30, 18 January 1954, at 136.

propose to undertake on its own account a similar study of the transport of such goods by air."[81]

An ICAO observer mentioned at a UPU[82] meeting that "ICAO would likely confine itself to saying that it was in agreement with the IATA proposals."[83]

However, within the ICAO Council, some representatives were surprised and disagreed. The Air Navigation Commission Chairman answered the questions raised by Council members:

> "the Commission had approached this subject with great caution because of the difficulties involved in preparing even an international manual on the carriage of dangerous goods by air and because of the possible reluctance of many States to change their regulations governing it. IATA had developed a manual which its member airlines had submitted to their governments, and the Commission was awaiting the reaction of States to it before deciding whether ICAO could do anything useful on the problem. It was therefore not quite

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[81] "It is hoped, nevertheless, that special requirements will be borne in mind." Air Navigation Commission, 20th Sess., Minutes of the 10th Meeting, 7 October 1955, ICAO Doc. AN-WP/MIN XX-10, 28 October 1955, at 51. Those special requirements included classification, labeling, shipping papers, packing and differentiation between passenger carrying and all cargo aircraft. **Third Report of Working Group on Carriage by Air of Dangerous Goods to the Air Navigation Commission**, ICAO Doc. AN-WP/1337, 4 October 1955, at 4 and 5.

[82] Universal Postal Union.

[83] Meeting of the Executive and Liaison Commission of the Universal Postal Union, held at Lucerne, 11-12 May 1954. Council, 23rd Sess., **Relations of ICAO with Other International Organizations**, ICAO Doc. C-WP/1775, 4 October 1954, at 5.

> correct to state that "ICAO would likely confine itself to saying that it was in agreement with the IATA proposals".[84]

The Air Navigation Commission President wrote to the Council at the end of 1957 "that, in the absence of any information to indicate that safety is endangered, no purpose would be served by action of ICAO in the Air Navigation field, at this time, regarding the carriage of dangerous goods."[85]

ICAO's work in the field was put on hold. For the next years, the Council looked at reports presented by the Secretariat on the implication for ICAO of regulations drafted by other organizations. Commenting on the situation, the Council President stated that, officially or by default, IATA was responsible for the detailed work, ICAO's role being to support IATA's position.[86] There were

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[84] Council, 23rd Sess., Minutes of the 5th Meeting, 27 October 1954, ICAO Doc. 7525-5 C/875-5, 10 November 1954, at 65.

[85] Council, 32nd Sess., 623rd Report to Council by the President of the Air Navigation Commission - Subject No. 35: Restriction on Carriage by Air of Articles which, though Classed as "Dangerous" Are Necessary for the Safe and Regular Operation of International Air Services (Article 35 (b) of the Convention) (ANC Item No. 23), ICAO Doc. C-WP/2575, 12 December 1957, at 1.

[86] He "believed it had been accepted - he was not sure whether officially or by default - that IATA should be responsible for the detailed work on the carriage of dangerous goods by air and, several years ago, a working group of the Air Navigation Commission had been aware that IATA was in direct contact with the United Nations on the subject and had agreed that ICAO's role should be to support

two aspects to the matter: the detailed regulations that should govern its carriage by air, an aspect "with which he did not think ICAO was equipped to deal", and a policy aspect "and perhaps it now required re-examination".[87]

The Secretary General wrote in 1964 that ICAO had the opportunity for intervention and criticism within the existing bodies which were dealing with the problems. However, if the Council wanted to change its passive role into a more active one, to submit "all aspects of existing regulations to a detailed examination from an aeronautical point of view" and prepare proposals for their amendments, ICAO would require an expert knowledge and experience beyond its actual resources, such as the creation of an expert working group or panel and more personnel within the Secretariat. He concluded: "It is doubtful whether the present situation warrants such an expansion of ICAO's work on the matter."[88]

The Council endorsed this conclusion. Its President

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the IATA position in the United Nations." Council, 50th Sess., Minutes of the 3rd Meeting, 12 November 1963, ICAO Doc. 8373-3 C/948-3, 10 December 1963, at 36.

[87] ibid.

[88] Council, 51th Sess., **The Question of Carriage of Dangerous Goods**, ICAO Doc. C-WP/3929, 11 February 1964, at 4.

stated: "there was no prospect of its having to embark on any detailed studies."[89]

4. Reticence about IATA Regulations

As early as 1951, some ICAO working papers suggested that the IATA regulations were not a proper solution. An ICAO working paper stated:

> "The spirit of Article 37 being that uniformity in the national practices of the contracting States should be sought through the medium of international standards incorporated in Annexes to the Convention, however valuable the work of IATA may prove to be to its members or as working material for the development of international standards, it cannot serve in lieu of such standards. It does, however, suggest the extent to which international standardization may be necessary."[90]

At the following Air Navigation Commission meeting, the discussion revealed that the Standards and Recommended Practices (SARPs) to be developed by the Commission "should be sound in concept and should provide a basis for the detailed specifications such as those prepared by IATA."[91]

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[89] Council, 51th Sess., Minutes of the 7th Meeting, 16 March 1964, ICAO Doc. 8413-7 C/950-7, 25 August 1964, at 96.

[90] Air Navigation Commission, 9th Sess., **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/739, 27 December 1951, at 4.

[91] Air Navigation Commission, 9th Sess., 1st Meeting, 29 January 1952, ICAO Doc. AN-WP/MIN IX-1, 4 February 1952, at 4.

After the meeting of the IATA Restricted Articles Working Group held at Copenhagen in 1952, another working paper suggested that:

> "It would not be sufficient merely to incorporate in ICAO standards the regulations established by IATA since this would be tantamount to delegating to another organization the right to determine the way in which States would exercise the rights reserved to them under Article 35 (b) of the Convention. Nevertheless, it would clearly be in the interest of international civil aviation for ICAO to take cognizance of any recommendations made by IATA."[92]

This reticence disappeared from ICAO working papers for almost 20 years, the IATA Regulations occupying the whole field. They came back in 1974, when the Air Navigation Commission "rediscovered" that they were not the solution.

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[92] Air Navigation Commission, 11th Sess., **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/896, 18 November 1952, at 3.

III. UNITED NATIONS COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

The Transport and Communications Commission of the Economic and Social Council (ECOSOC) of the United Nations[93] recognized at an early stage that the transport of dangerous goods was an urgent matter requiring solution.

Dangerous goods must be carried from one country to another, from one mode of transport to another. Shipments sent by air have to reach an airport by road. Lack of uniformity in regulations hampers its carriage. The work of the Economic and Social Council and its bodies was important, for it served as a basis for the Annex 18 to the Chicago Convention.

At its fourth session held in 1950, the Transport and Communications Commission studied the problems of

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[93] The Charter of the United Nations created the Economic and Social Council as an organ under the authority of the General Assembly with the responsibility of the international economic and social cooperation, to promote, i.a., solutions of international economic and related problems (Article 55 to 72). At its first session, the Council established a Temporary Transport and Communications Commission, later becoming the Transport and Communications Commission, to assist it in its task concerned with transport and communications problems. The Commission stopped its activities in 1959 when its task was passed to other bodies. See **Yearbook of the United Nations, 1946-47,** (Lake Success, N.Y.: Department of Public Information, United Nations, 1947) at 496 and 497.

international road transport[94] and suggested that the next report of the Secretary General to the Commission include additional problems of international road transport, inter alia, the "transport of dangerous goods". It was suggested that the latter problem should be studied with regard not only to road transport, but simultaneously with regard to transport by sea and air.[95]

A. The 1950 Report of the Secretary General

In his report of 29 December 1950, the Secretary General noted that the only comprehensive set of international regulations was the Annex 1 to the International (Berne) Convention on the Transport of Goods by Rail signed at Rome on 23 November 1933, the successor of a series of conventions going back to 1890. Its codes formed the basis of most European national legislation. There was uniformity in North-America in the carriage by rail, since the Canadian Board of Transport Commissioners had adopted for application in Canada regulations identical

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[94] ECOSOC, **International Road Transport, Note by the Secretary-General**, UN Doc. E/CN.2/76, 20 January 1950.

[95] ECOSOC, 11th Sess., Transport and Communications Commission, **Report of the Commission (Fourth Session) to the Economic and Social Council, 27 March to 4 April 1950**, UN Doc. E/1665 (E/CN.2/92), 26 April 1950, at 10.

to the American ones.[96] The rest of the legislation was fragmentary.

The problem fell then into two questions:

1- adoption on a worldwide basis of uniform regulations for all or several modes;

2- adoption of uniform regulations for each form of transport with respect to the problems peculiar to each mode.[97]

On 19 March 1951, examining at the report, the Transport and Communications Commission noted that the existing international regulations on transport of dangerous goods were fragmentary and lacked uniformity. It suggested the adoption of world-wide regulations applicable to all forms of transportation.[98]

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[96] **Transport of Dangerous Goods, Note by the Secretary-General**, UN Doc. E/CN.2/97, 29 December 1950, at 2.

[97] ibid. at 19.

[98] It suggested: "(a) Adoption on a world-wide basis of uniform regulations applicable to all or several means of transport with respect to those aspects of the problem of which uniform treatment in relation to various forms of transport can be made; and (b) only after (a) had been settled; the adoption of uniform regulations for each form of transport with respect to aspects of the problem peculiar to that form of transport or aspects which, although existing for other forms of transport, must have special treatment for a special form of transport due to its special characteristics." Air Navigation Commission, 6th Session, **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/557 ADD, 2 May 1951.

It concluded that this was an urgent matter requiring consideration, and a first step would be to find out which aspects were appropriate for uniform treatment internationally. In its Resolution No. 7, the Commission recommended the Economic and Social Council examine the problem with competent international bodies, such as ICAO and appropriate national bodies.[99]

On the basis of this Resolution, the Economic and Social Council adopted on 11 August 1951 Resolution 379 E (XIII), instructing the Secretary General:

> "To examine, in consultations with the competent international and, where appropriate, national bodies, if necessary by convening a meeting, the various aspects of the problem of the transport of dangerous goods, among them classification, packaging and labelling, with a view to determining which of these aspects are appropriate for uniform or approximately uniform regulations with respect to the various means of transport."

B. The 1952 Report of the Secretary General

The Secretary General prepared a preliminary analysis and forwarded it to international organizations for

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[99] Transport and Communications Commission, 5th Sess., Report, UN Doc. E/1980 (E/CN.2/117), 6 April 1951.

comments on 4 December 1951.[100] He sent a letter to ICAO, dealing with the following problems:

1. Definition of dangerous goods;

2. Listing and classification;

3. Goods excluded from or restricted to certain types of carriage;

4. Goods requiring prior permission for each shipment;

5. Preparation of consignment for shipment;[101]

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[100] Central Commission for the Navigation of the Rhine; Central Office for International Transport by Rail; International Air Transport Association; International Chamber of Commerce; International Chamber of Shipping; International Civil Aviation Organization; Interstate Commerce Commission of the United States; International Labour Organization; Managing Administration of M.G.S. (Mejdunarodnoie Grusovoie Soglashenie), the convention concerning the transport of goods by railways in direct international traffic which included provisions on dangerous goods, to which Eastern European States are parties; United Kingdom Government, acting under the International Convention for the Safety of Life at Sea, Art. 24 of the Convention (London 1929) forbidding the carriage of some dangerous goods; Universal Postal Union; World Health Organization.

[101] Preparation of consignment:
(a) packaging and packing, including specifications for containers;
(b) restrictions on mixed packing;
(c) weight and quantity limitations in packing;
(d) marking and labelling of package or container;
(e) requirements relating to shipping papers:
(i) a description of the goods shipped;
(ii) a notation as to the applicable labelling requirements, and
(iii) a certification that regulations have been complied with, which appears on the label when there are no shipping papers.

6. Handling and storage incidental to the shipment (with the problems of protective equipment);

7. Loading;[102]

8. Safety features relating to transport requirement;[103]

9. Requirements concerning the transport operation;[104]

10. Testing and inspection:

(a) consignments;

(b) equipment;

11. Training, education and publicity;

12. Exemptions (military or naval vessels, used by public authorities).[105]

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[102] Loading:
(a) stowage requirements (considering different ways of carriage);
(b) restrictions on mixed loading;
(c) weight and quantity limitations in loading.

[103] Safety features:
(a) construction of vehicles;
(b) protective and safety apparatus;
(c) placarding and warning notices displayed on vehicles;
(d) condition of equipment, cleanliness, ventilation, etc.

[104] Requirements:
(a) appropriate time for transport;
(b) restrictions on the movement of the vehicle;
(c) fire and accident prevention;
(d) number and qualifications of crew.

[105] Air Navigation Commission, 9th Sess., **Carriage by Air of Dangerous Goods**, ICAO Doc. AN-WP/739, 27 December 1951, Erratum & Addendum, 23 January 1952.

As a result of these consultations, he issued a report in which he concluded that the subject could be divided into three categories, the first being the "Aspects of the problem of the transport of dangerous goods which seem to be most appropriate for substantially uniform regulation:"

- Definition of dangerous goods;
- Listing and classification;
- Goods excluded from (or restricted to certain types of) carriage;
- Preparation of consignment for shipment:
    (a) packaging and packing;
    (b) restrictions on mixed packing;
    (c) weight and quantity limitations in packing;
    (d) marking and labelling;
    (e) requirements relating to shipping papers;
- Testing and inspection:
    (a) consignments.[106]

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[106] ECOSOC, TCC, 6th Sess., **Aspects of the Problem of International Transport of Dangerous Goods Appropriate for Uniform Regulations**, UN Doc. E/CN.2/126, 31 October 1952, at 18 and 19. The two other categories were:

II. Other aspects of the problem whose suitability for uniform regulation seems to require some further consideration:
- Handling and storage incidental to the shipment;

After considering this report, the Transport and Communications Commission resolved "that the increased movement in international transport of commodities which, due to their inherent nature, offer a degree of risk to life and property, requires the greatest possible uniformity in the regulations for the safe transport of such commodities".[107] In accordance with this resolution, the

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- Safety features relating to transport equipment:
  (a) placarding and warning notices displayed on vehicles;
- Requirements concerning the transport operation:
  (a) fire and accident prevention;
- Training, education and publicity.

III. Aspects of the problem which are unsuitable for uniform treatment and can be omitted from further consideration in this connexion:
- Goods requiring prior permission for each shipment;
- Loading:
  (a) stowage requirements;
  (b) restrictions on mixed loading;
  (c) weight and quantity limitations in loading;
- Safety features relating to transport equipment:
  (a) construction of vehicles;
  (b) protective and safety apparatus;
  (c) condition of equipment, cleanliness, ventilation, etc.
- Requirements concerning the transport operation:
  (a) appropriate time for transport;
  (b) restrictions on the movement of the vehicle;
  (c) number and qualifications of crew;
- Exemptions.

[107] ECOSOC, Transport and Communications Commission, **Report of the 6th Session, 2 - 11 February 1953**, Resolution 7, UN Doc. E/2363 (E/CN.2/142), March 1953, at 11.

Economic and Social Council adopted Resolution 468 G (XV), for the appointment of a committee of experts on 15 April 1953.[108]

At the time, some ICAO Air Navigation Commissionners expressed their reservations about the likehood of the Resolution's success. Since the Resolution invited the UN Secretary General to invite international organizations to participate in the work of this committee, some expressed the hope "that ICAO was not being committed irrevocably to a

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[108] The Council:

"1. Requests the Secretary-General to appoint a committee of not more that nine qualified experts from countries having a substantial interest in the international transport of dangerous goods, the terms of reference of this committee to be as follows:

> Taking into consideration existing practices and procedures and giving due weight to the extent of present usage,
> (a) to make a study and present a report to the Transport and Communications Commission:
> (i) Recommending and defining groupings or classification of dangerous goods on the basis of the character of risk involved;
> (ii) Listing the principal dangerous goods moving in commerce and assigning each to its proper grouping or classification;
> (iii) Recommending marks or labels for each grouping or classification which shall identify the risk graphically and without regard to printed text;
> (iv) Recommending the simplest possible requirements for shipping papers covering dangerous goods...

2. Authorizes the Secretary-General to invite such international organization as he deems to be appropriate to send representatives to participate in the work of the committee convened under paragraph 1 above, in a consultative capacity."

programme which might prove unsatisfactory within the next six months or so."[109]

C. Meetings of the First Committee of Experts

The Committee met in Geneva in August-September of 1954 and of 1956, in addition to several meetings with the International Labour Office.[110] The Committee examined different regulations.[111] ICAO was involved, because its representative was a member of a working party which had revised the list of principal dangerous goods.

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[109] Air Navigation Commission, 12th Sess., Minutes of the 10th Meeting, 11 February 1953, ICAO Doc. AN-WP/MIN XII-10, 2 March 1953, at 36.

[110] The Office was involved in this field, since a Convention was adopted in Geneva on 27 April 1932 by the International Labour Conference of the International Labour Organization concerning the Protection against Accidents of Workers employed in loading or unloading ships, requiring regulations to prescribe precautions against dangerous goods. **Transport of Dangerous Goods, Note by the Secretary-General**, UN Doc. E/CN.2/97, 29 December 1950, at 3.

[111] The US Interstate Commerce Commission Regulations; the Annex I to the International Convention on the Transport of Goods by Rail (CIM); the IATA Regulations; the Conventions relating to the Transport of combustible liquids in Inland Navigation (The Hague, 1939); the US Coast Guard Regulations; Chapter VI of the International Convention for the Safety of Life at Sea (London, 1948); the Suez Canal regulations; the British Ministry of Transport report on the carriage of dangerous goods and explosives in ships.

In the report of the first meeting,[112] some members of the Transport and Communications Commission pointed out that other bodies were faced with the problem of dangerous goods. It was important for the Committee to make its recommendations. The members mentioned the activities of the Economic Council for Europe[113] in the domain of highways and the Central Office for International Transport by Rail with respect to Annex 1 to the International Convention on the Transport of Goods by Rail.

The Transport and Communications Commission then adopted a resolution in which it "[C]onsiders that the problem requires an urgent solution in view in particular of the increasing regional activities in this field which should not be retarded and should be adopted to world-wide developments."[114] The Council adopted this resolution as Resolution 567 E (XIX) of 20 May 1955, asking the Secretary General to circulate the report in order so that the Committee of Experts could examine the replies.

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[112] ECOSOC, TCC, **Report Submitted by the Committee of Experts on the Transport of Dangerous Goods to the Transport and Communications Commission at its 7th Session**, UN Doc. E/CN.2/143 (E/CN.2/Conf.3/1), 4 September 1954.

[113] Body acting under the supervision of the Economic and Social Council, which held its first meeting in May 1947.

[114] Transport and Communications Commission, **Report of the 7th Session**, 7 to 15 February 1953, Resolution 4, UN Doc. E/2696 (E/CN.2/164), 21 February 1953, at 9.

At its second meeting, the Committee advocated the establishment of a permanent governmental organ within the framework of the United Nations to pursue the task.

1. United Nations Numbering and Performance-Oriented Standards

These meetings established first a United Nations' system of numbering of dangerous goods, to overcome the difficulties created by the differences in languages and regulations.

They introduced also the criteria for packaging. The United States Interstate Commerce Commission regulations were based on the specifications that the package had to meet to be acceptable, not on the performance it has to perform. This results in detailed and complex regulations. The consignor who believes that his package is nonetheless proper for shipment must request an exemption.

According to a U.S. Department of Transportation report, in 1984, 1 395 applications for exemption were received, of which only 30 were denied, indicating that "95% of all applicants are able to demonstrate an equal or better

way of packaging or transporting shipments than indicated in the regulations."[115]

The Committee concluded that, to achieve a standard form of minimum requirements for the different types of packaging in international traffic, the "most obvious way to go about this would seem to be to study first the tests which packaging must pass, since it is these after all which determine the degree of safety which the packing must ensure."[116]

This approach taken in 1956, to consider the performance which the packaging had to complied with, resulted in the Committee of Experts adopting performance-oriented standards. These standards are set out in the recommendations and also in the Annex 18 to the Chicago Convention.[117]

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[115] Department of Transportation, Safety Review Task Force, **Report on the Hazardous Materials Program of the Research and Special Programs Administration**, February 1985, at 10.

[116] Transport and Communications Commission, **Report on its 2nd Session Submitted by the Committee of Experts on the Transport of Dangerous Goods**, 16 August to 12 September 1956, UN Doc. E/CN.2/165 (E/CN.2/CONF.4/1), 17 October 1956, at 14 paragraph 41.

[117] "...the Committee agreed not to lose sight of improvements and changes that may occur as a result of progress in science and technology: provisions are made for the use of packagings which, while not complying with the specifications set out in the Recommendations, would be satisfactory in every respect as those complying with these specifications, provided that the packages, prepared as for shipment, could successfully pass the recommended tests."

2. The Recommendations of the First Committee of Experts

The final report following the two meetings was published in 1956 as a saleable document,[118] dealing with classification and definitions of classes, listing of the principal dangerous foods, labelling and shipping papers. The Committee noted that there were differences in the regulations for packaging and stowing, for different modes of transport of the same substances, in classification, labelling, listing, terminology, all of which create difficulties for shippers and inspection authorities.[119]

The Recommendations were not new regulations, but a

Committee of Experts on Transport of Dangerous Goods, **Draft Report of the Committee to the Economic and Social Council pursuant to Resolution 1743 (LIV) of 4 May 1973**, UN Doc. E/CN.2/Conf.5/56, 16 December 1974, at 17, issued under UN Doc. E/5620 as **Report of the Committee of Experts on Transport of Dangerous Goods on Progress of its Investigations and Recommendations Concerning Steps that Should Be Taken with a View to Bringing about Uniformity in Various Modal Practices Applicable to Transport of Dangerous Goods**, 13 February 1975.

[118] **Transport of Dangerous Goods, Recommendations Concerning the Classification, Listing and Labelling of Dangerous Goods and Shipping Papers for Such Goods, Recommendations Prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods**, UN Doc. ST/ECA/43 (E.CN.2/170), October 1956, Sale No.: 1956.VIII.1.

[119] ibid. at 3 and 4.

framework to achieve uniformity which could grow and expend if governments and organizations were to adopt them.[120]

Dangerous goods were classified into nine classes, classes found in Annex 18: explosives, gases, inflammable liquids, inflammable solids or substances, oxidizing substances, poisonous (toxic) and infectious substances, radio-active substances, corrosives, and miscellaneous dangerous substances.

Classification is based on the nature of the danger, instead of the degree of danger, even if both are taken into consideration where packing is concerned.[121]

A list of dangerous substances and labels with optional wordings was established. The proposed labels had five main symbols, four of which were taken from the Group of Experts on Dangerous Substances of the International Labour Office. The fifth one for corrosive substances was borrowed from IATA (acid spilling from a glass vessel and attacking metal).

For the ICAO Council, there was no legal conflict between the Recommendations and Article 35(b) of the

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120 "They offer a general framework to which existing regulations can be adapted and within which they can develop, and new regulations, for international seaborne transport for example, be established." ibid. at 4.

121 Committee of Experts on Transport of Dangerous Goods, **Draft Report of the Committee to the Economic and Social Council pursuant to Resolution 1743 (LIV) of 4 May 1973**, UN Doc. E/CN.2/Conf.5/56, 16 December 1974, at 6.

Chicago Convention and paragraph 3.5 of Annex 6. The only difficulty which could arise would be when States implemented the Recommendations, since States might introduce provisions into their legislation in opposition to the Chicago Convention.[122]

For the Transport and Communications Commission, the Recommendations formed "a basis for further work towards overcoming disharmony among regional and national regulations and codes of practice relating to individual modes of transport which presently hampers the development of this important trade".[123]

Having noted this statement, the Economic and Social Council requested the setting up of a Committee of Experts on the transport of dangerous goods to pursue the work of the former Committee in Resolution 646 G (XXIII) of 26 April 1957.[124]

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[122] ICAO Council, 33rd Sess., **Non-Technical Aspects of Carriage of Dangerous Goods**, ICAO Doc. C-WP/2581, 21 January 1958, Approved by Council, 33rd Sess., Minutes of the 2nd Meeting, 27 February 1958, ICAO Doc. 7878-2 C/905-2, 7 May 1958 at 58.

[123] Transport and Communications Commission, **Report of the Commission to the Economic and Social Council on its 8th Session Held in New York from 7 to 16 January 1957**, Resolution 8, UN Doc. E/2948 (E/CN.2/187), January 1957, at 11.

[124] "1. Requests the Secretary-General:
(a) To set up a committee consisting of not more than nine qualified experts from countries interested in the international transport of dangerous goods:
(i) To revise as may be necessary and keep up to

Since the Resolution urged international organizations "to keep the Secretary General currently informed of the extent to which they can bring their own practices in general conformity with them", ICAO was asked to discuss its practices.

The ICAO Working Group on Dangerous Goods remarked:

> "ICAO does not have any practices, as such, regarding the carriage of dangerous goods, but the practices of States are affected to a greater or lesser degree by the standard at 3.5 of Annex 6. For this reason the question arises as to the necessity or desirability of amending this Annex... Incorporation by reference in Annex 6 of the ECOSOC documents on carriage of dangerous goods would appear to

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date the list of dangerous goods proposed by the Committee of Experts, taking into account existing practices in the field of transportation and the extent of their usage;
(ii) To allot to each substance a number for ready identification;
(iii) To study further the problem of packing;
(iv) To study related matters;
(v) To report progress to the Transport and Communications Commission;

(b) To invite Governments of countries interested in the international transport of dangerous goods to make available, at his request and at their own expense, experts to serve on the above committee;
(c) To arrange for a consultant to make a comparative study of the systems of regulations on packing which the Secretary-General has already received information, so as to make it possible for the Committee of Experts to pursue the study on packing, provided under (iii) above;

2. Urges the Governments, regional economic commissions and international organizations concerned to take note of the recommendations of the Committee of experts and of any further recommendations by the committee referred to in paragraph 1 (a) above, and to keep the Secretary-General currently informed of the extent to which they can bring their own practices into general conformity with them;..."

> be a step in the direction originally contemplated [facilitation of shipment of dangerous goods] and the WG [Working Group] is invited to consider this action."[125]

D. The New Committee of Experts

The Committee of Experts "for Further Work" on the Transport of Dangerous Goods, as it was then called, held its first session in March 1959. While ICAO had sent a representative to its predecessor, no representative was present at the sessions of this new Committee of Experts prior the creation of the ICAO Dangerous Goods Panel in the 1970s. On the other hand, IATA was a very active participant in all meetings, as part of the Recommendations was based on the IATA Regulations.

Considering that "there is scarcely any activity in the world today which is not to some extent dependant on dangerous goods, and that nobody is unaffected by the risks they occasion or by the harm they may cause to the environment", the Committee based its Recommendations on the principle that transport should be regulated to prevent accidents, damage or loss, but also framed so as not to

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[125] Air Navigation Commission, Working Group on the Carriage of Dangerous Goods, **Action by the Economic and Social Council**, ICAO Doc. AN-WG/DAG/15, 24 October 1957, at 1.

impede the movement of such goods which are not too dangerous to be accepted for transport.[126]

If the 1956 Recommendations were contained in one booklet, the 1964 ones were in two volumes. By 1966 they were three volumes, in 1970 four, and 1973 was witness to two supplements containing changes and additions.[127] They are now contained in, and referred to as, the "orange book".[128]

1. IATA Packing and Classification

The Committee expressed the wish that the result of the IATA studies on packing should be made available to it

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[126] Committee of Experts on Transport of Dangerous Goods, **Draft Report of the Committee to the Economic and Social Council pursuant to Resolution 1743 (LIV) of 4 May 1973**, UN Doc. E/CN.2/Conf.5/56, 16 December 1974, at 1 and 2, paragraphs 3 and 5.

[127] **Transport of Dangerous Goods, Extracts from Recommendations Prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, as Amended by the United Nations Committee of Experts for Further Work on the Transport of Dangerous Goods**, UN Doc. ST/ECA/81 (E/CN.2/Conf.5/10), 1964, Sales No: 1964.VIII.1; ibid., UN Doc. ST/ECA/81/Rev.1 (E/CN.2/Conf.5/10/Rev.1), 1966, Sales No. 1967.VIII.2; **Recommendations Prepared by the United Nations Committee of Experts on Transport of Dangerous Goods**, UN Doc. ST/ECA/81/Rev.2 (E/CN.2/Conf.5/10/Rev.2), 1970, Sales No. E.70.VIII.2; ibid., UN Doc. ST/ECA/81/Rev.2/Am.1 (E/CN.2/Conf.5/10/Rev.2/Amend.1), 1973, Sales No. E.73.VIII.2.

[128] UN Doc. ST/SG/Ac.10/1, as amended.

in due course. Any conclusion reached by IATA might then be used as a basis for the Committee's future work.[129]

IATA came out with performance tests based on those prescribed by the regulations of the U.S. Interstate Commerce Commission for "rail express" shipments.[130] IATA reported that criticism of its tests came mainly from senders and manufacturers wishing to use cheaper packaging.[131]

During the 4th session, IATA "felt most strongly" that the Group of Rapporteurs on Packing should not be required to examine the detailed packaging requirements contained in its Regulations with a view to determining their suitability as far as air transport was concerned, since experience had shown that they were entirely satisfactory.[132]

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[129] **International Transport of Dangerous Goods, Progress Report of the Committee for Further Work on the Transport of Dangerous Goods, 1st Session, Geneva, 9 - 26 March 1959**, UN Doc. E/CN.2/191 (E/CN.2/Conf.5/1), 31 March 1959, at 11.

[130] **Reports of the Committee of Experts for Further Work on Transport of Dangerous Goods on its 3rd Session**, UN Doc. E/3841 (E/CN.2/Conf.5/7), 8 November 1963, at 6.

[131] **Report of the Committee of Experts on its 6th Session, 27 October to 7 November 1969**, UN Doc. E/CN.2/Conf.5/41, 8 December 1969, at 13.

[132] **Report of the Committee of Experts on its 4th Session, 20 September to 1 October 1965**, UN Doc. E/CN.2/Conf.5/16, 8 October 1965, at 14.

The Committee agreed that "the method of dealing with air transport should be to incorporate, as far as possible", in its Recommendations, the relevant provisions of the current IATA Regulations while dealing with air transport.[133]

As to classification, while IATA's system of classification was similar to the one in the Recommendations, some differences still remained at the end of 1974. The Committee noted that "nitrocarbonitrates" were an explosive substances, type D blasting explosive, in the Recommendations, while the IATA Regulations classified them as oxidizing materials. Other example is "organic peroxides", which IATA classified as either oxidizing materials or inflammable liquids.[134]

2. Numbering

For the allotment of numbers to dangerous goods, the Committee first suggested to start at 1001, with the english alphabetical order. Since new substances might be

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[133] ibid.

[134] Committee of Experts on Transport of Dangerous Goods, **Draft Report of the Committee to the Economic and Social Council pursuant to Resolution 1743 (LIV) of 4 May 1973**, UN Doc. E/CN.2/Conf.5/56, 16 December 1974, at 15.

discovered in the future and added to the list, it would be necessary to say which list is used.

IATA's comment on this recommendation was that "when it had attempted to maintain a permanent system of numbering its index of dangerous goods to facilitate translation problems, it had found the system to be unduly cumbersome and undesirable."[135]

The Committee later recommended the adoption of a decimal system of numbering classes, their divisions and subdivisions, with items registered consecutively and given a number, numbers 0001 to 1000 being used for entries concerning class 1 (explosives). The complete number of each item would be listed consisting of the number of the class in which it was listed, and separated by a stroke, of the registration number mentioned above.[136]

3. Nuclear

The Committee at its first session submitted a recommendation, adopted by Resolution 724 C (XXVIII) of 17

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[135] **Progress Report of the Committee of Experts for Further Work on the Transport of Dangerous Goods, 1st Sess., Geneva, 9 - 26 March 1959, UN Doc. E/CN.2/191 (E/CN.2/Conf.5/1), 31 March 1959, at 10.**

[136] Committee of Experts for Further Work on the Transport of Dangerous Goods, 3rd Sess., **Report**, 9 to 13 September 1963, UN Doc. E/3841 (E/CN.2/Conf.5/7), Annex 1, at 4.

July 1959 of the Economic and Social Council, requesting the Secretary General:

> "To inform the International Atomic Energy Agency of the desire of the Council that the Agency be entrusted with the drafting of recommendations on the transport of radioactive substances, provided that they are consistent with the framework and general principles of recommendations of the Committee of Experts..., and that they are established in consultation with the United Nations and the specialized agencies concerned."

The Committee endorsed the IAEA regulations at its 2nd session, recommending incorporation of them as its own recommendations.[137]

4. Shipping Documents

For the Committee at its 7th session, "the responsibility for compliance with transport regulations is shared between the shipper and the carrier, and the shipper's responsibility is adequately covered by the present wording of paragraph 50, which requires a declaration that "the shipment... is properly packed, marked

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[137] **Progress Report of the Committee of Experts for Further Work on the Transport of Dangerous Goods, 2nd Sess., Geneva, 28 August - 1 September 1961**, UN Doc. E/CN.2/Conf.5/3.

and labelled, and in proper condition for transport in accordance with the operative regulations."[138]

IV. THE FOURTH AIR NAVIGATION CONFERENCE

The Fourth Air Navigation Conference held from 9 November to 3 December 1965 substantially revised Annex 6 to the Chicago Convention and updated it. The revision of paragraph 3.5 was considered. However, the Conference did not take the opportunity to make important modifications to this paragraph, even though it had reports on the important work done on the transport of dangerous goods by other organizations.

Noting that several bodies were striving for standardization in the regulations pertaining to carriage of dangerous goods, it decided only to add to paragraph 3.5. that, not only the carriage, but also the packaging and labelling would be governed by State regulations. It set also a "more adequate" listing of the classes of dangerous goods in Note 1 and summarized Article 35 in Note 2.[139]

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[138] **Report of the Committee of Experts on its Seventh Session, 27 November - 6 December 1972**, UN Doc. E/CN.2/Conf.5/49, 31 December 1972, at 2.

[139] **Report of the Fourth Air Navigation Conference**, 9 November - 3 December 1965, ICAO Doc. 8554 AN-Conf/4, at 2-2 and 2-14. At the end of paragraph 3.5: "and they are packaged and labelled in accordance with the regulations approved by that State." As to the new Note 1:

These modifications were adopted by the Council on 14 December 1966.[140]

V. TOWARDS A NEW ANNEX

For almost twenty years, the air carriage of dangerous goods was left to IATA. As long as these goods were transported without serious accident, governments were not interested in changing the situation. This trend changed suddenly in 1972 following the Delta Air Lines contamination incident of 31 December 1971, as well as subsequently reported accidents, such as the 1973 Boston's Logan airport accident. Suddenly, it seemed that the carriage of dangerous goods was not as safe as people had believed, despite the existence of the IATA Restricted Articles Regulations. The American public asked their representatives what they were doing about it. The

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"Flammable liquids or solids, oxidizing materials, corrosive liquids, flammable or non-flammable compressed gas, poison gas, poisonous liquid or solid, or tear gas and radio-active materials, are, inter alia, considered dangerous articles; certain articles may become dangerous when in proximity to other articles." As to the new Note 2:
"Article 35 of the Convention refers to certain classes of cargo restrictions."

[140] **Action of the Council, 59th Sess., 19 September-16 December 1966**, ICAO Doc. 8665-C/970, at 12; Amendment No 150, effective on 14 April 1967 and applicable on 24 August 1967.

representatives conducted hearings. Pilots instituted their STOP Program and had to go to courts to defend it.[141]

The problem of air carriage of dangerous goods suddenly received top priority and this new feeling had its repercussions within ICAO. Moreover, the economic impact of this carriage was not neglible. It was evaluated in 1976 at $200 million a year world-wide.[142]

A. Facilitation: Amendment to Annex 9

In 1958, the Council examined a report on the non-technical aspects of the carriage of dangerous goods, such as facilitation.[143]

The facilitation interest was then to ensure (1) that there would be no demands for extra documentation, taking into consideration that a danger label or a stamp on the existing documents might be enough, and (2) that there would be no unnecessary delays in the clearance of these goods.

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[141] infra, Chapter II Part I; Chapter III Part I Subpart A-1.

[142] Air Navigation Commission, 81st Sess., Minutes of the 18th Meeting, 23 March 1976, Doc. AN Min. 81-18, 12 May 1976, at 107 para. 6.

[143] Council, 33rd Sess., **Non-Technical Aspects of Dangerous Goods**, ICAO Doc. C-WP/2581, 21 January 1958.

The Council did not find it necessary to put new provisions in Annex 9.[144]

While the American House of Representatives was conducting its first hearings on the carriage by air of hazardous materials,[145] the Facilitation Division was holding its 8th Session (1973) at ICAO.

Discussing Agenda Item 4 on "Formalities connected with the entry and departure of cargo and other articles", Canada suggested that Chapter 8 of Annex 9 (other facilities provisions) should include a Section E- Classification and Labelling of Dangerous or Hazardous Cargo, containing as Item 8.14 a standard on dangerous goods.

It submitted that "the Facilitation Division may wish to consider the adoption of a single code at the earliest practical opportunity which would be applicable to all modes of transportation, and which incorporates the established United Nations labelling scheme."[146]

The proposed standard became Recommendation B-7 at the end of the Session, since the proposal had not been

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[144] Council, 3rd Sess., Minutes of the 2nd Meeting, 27 February 1958, Doc. 7878-2 C/905-2, 7 May 1958, at 58.

[145] **Hearings before the Government Activities Subcommittee of the House Committee on Government Operations**, 93rd Congress, 1st Sess., 14, 15 March and 5 April 1973.

[146] Facilitation Division, 8th Sess., **Classifying and Labelling of Hazardous or Dangerous Goods**, ICAO Doc. FAL/8-WP/62, 30 January 1973, at 2.

accepted. The text was deemed unsuitable for inclusion in Annex 9.[147]

Recommendation B-7 adopted by the Facilitation Division read as follows:

> "Contracting States accord full support and cooperation to the adoption of a single internationally approved system for identifying, classifying and labelling dangerous or hazardous cargo which would be applicable to all modes of transportation."[148]

The ICAO Council approved this Recommendation on 6 June 1973.[149] Even though this Recommendation was adopted by the Council, "officially" it is not considered as the beginning of ICAO's work for a new Annex on dangerous goods. According to the official history of Annex 18, a meeting held by the Accident Investigation and Prevention Division in 1974 was the catalysis of the new Annex.[150]

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[147] Facilitation Division, **Report of the 8th Session**, 6-22 March 1973, ICAO Doc. 9055 FAL/8, 1973, at 4-13.

[148] ibid. at 4-14.

[149] Council, 79th Sess., Minutes of the 5th Meeting, 6 June 1973, ICAO Doc. 9073-C/1011, C/Min. 79-5, 8 October 1973, at 68.

[150] All the different ICAO papers written on the subject says that its work, or its interest, began with the 1974 meeting of the Accident Investigation and Prevention Division. See, for example, L. F. Mortimer, "ICAO Developing Uniform Control System for Air Transport of Dangerous Goods" **ICAO Bulletin** (October 1976) at 12.

B. The 1974 Accident Investigation and Prevention Divisional Meeting

During the Accident Investigation and Prevention Divisional Meeting held in June 1974, participants discussed at Item No 7 AIG Procedures for Radio-active Material. They "confirmed the need for accident investigation authorities to be notified, immediately an accident is known to have occurred, if the aircraft concerned was carrying radio-active material," explosives and other dangerous articles, imposing a hazard to investigators rescue units, fire-fighting services, etc.[151]

The Meeting came up with the following Recommendation (7/1):

> "that ICAO undertakes, as a matter of urgency, a study of all aspects involved in the transportation of dangerous articles by air, including the means and methods of ensuring notification of air traffic services, search and rescue services and accident investigation authorities, and related matters such as packaging of the material."

C. Air Navigation Commission's Reactions to the 1974 Meeting

At the Air Navigation Commission meeting which considered Recommendation 7/1, the "view was expressed" that

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[151] Accident Investigation and Prevention Divisional Meeting, **Report**, ICAO Doc. 9106 AIG (1974), at 7-1.

"this was not an air navigation task but an air transport one."

A Secretariat member remarked that there had been a major accident in which the carriage of hazardous materials was implicated, and that it might be useful to consult States on any technical aspects and regulations being developed.

Agreeing that more information was needed from States, the Commission added the following task to its working programme: "Carriage of hazardous materials in aircraft: Study of the possible need for specifications or guidance material concerning the carriage of hazardous material in aircraft."[152]

A State Letter, dated 4 February 1975, was sent, explaining that the basic principle underlying the regulations would be "to prevent hazardous materials from causing either accidents to persons or damage to the means of transport or to other materials while at the same time not unduly restricting their shipment."[153] By 1 August

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[152] Air Navigation Commission, 77th Sess., Minutes of the 9th Meeting, 8 November 1974, ICAO Doc. AN-Min. 77-9, 18 December 1974, at 71-72.

[153] Air Navigation Commission, **Carriage of Hazardous Materials in Aircraft**, ICAO Doc. AN-WP/4456, 21 August 1975, at 4. State Letter AN11/2-75/20 looked at different regulations: 1- UN ECOSOC Committee of Experts on the Transport of Dangerous Goods; 2- IAEA; 3- Inter-governmental Maritime Consultative Organization (IMCO, a specialized

1975, 59 replies were received and there reported that there were some problems.[154]

The Secretariat study which followed the replies "discovered" that half of all materials carried by all modes of transportation were hazardous. Even with the United Nations and IATA Regulations, a number of problems emerged which jeopardized flight safety and impeded shipment thus indicating that increased international co-operation was required.[155]

It repeated, after an eclipse of nearly twenty years, that the IATA Regulations were not the solution to the problem. The study reported that they:

> "do not possess the status and moral force of international specifications agreed by States, which are necessary to ensure full acceptance and compliance", the lack of common standard causing "confusion, inadequate appreciation of the inherent dangers involved, accidents, shipping delays and unnecessary expenditure of resources... Even though a State may incorporate detailed technical regulations in its national code, such action will be ineffective unless the code provides detailed guidance covering the complexities of the means of compliance, as well as ensuring

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agency of the UN, now IMO, International Maritime Organization); 4- IATA; 5- USA Hazardous Materials Regulations.

[154] "Approximately one-half of the replies indicated that various problems had been encountered which adversely affected the safety of operations and the shipment of materials." ibid. at 5.

[155] ibid. at 2.

adequate inspection and penalties for violators."[156]

According to the study, these Regulations were ignored by shippers, manufacturers and freight forwarders, with impunity.[157]

1. Adoption of a Working Programme

On 6 October 1975, the Commission agreed that there was a need for ICAO specifications and approved a working programme.[158]

Following the work of the Hazardous Materials Study Group, the Air Navigation Commission considered a working paper presented by the Director of the Air Navigation

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[156] ibid. at 6.

[157] ibid. at 7.

[158] "1) Develop an outline of ICAO specifications required to ensure a high level of safety, but which do not unduly impede the carriage of hazardous materials by air;

2) Develop recommendations concerning the appropriate means to fully develop ICAO hazardous materials specifications, including notification procedures, and to continue the technical work required for the regular updating thereof. In carrying out 1) and 2) above, due account is to be taken of existing UN, IAEA and IMCO regulations and the work already carried out by IATA and States. Account shall also be taken of intermodal aspects, particularly the compatibility of air and motor (road) regulations;

3) Work should be completed by 15 March 1976." ibid., Appendix C, and Air Navigation Commission, 80th Sess., Minutes of the 7th Meeting, 6 October 1975, ICAO Doc. AN Min. 80-7, 17 November 1975, at 35.

Bureau; one Appendix was an outline of a possible annex, the other of a technical manual.[159]

Two problems emerged: 1) lack of standardization and procedures[160] and 2) basic regulatory provisions to achieve strict compliance.[161] It was concluded that the complexity and volume of the standards and recommended practices (SARPs) would require a new annex, noting that "no international specifications, regardless of their precision or detail, can accomplish the desired results unless adequate measures are taken by States to ensure effective compliance."[162]

The working paper presented 4 options.[163] Leaving

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[159] Air Navigation Commission, 81st Sess., Minutes of the 16th Meeting, 17 March 1976, ICAO Doc. AN Min. 81-16, 13 April 1976, at 94; Carriage of Hazardous Materials in Aircraft, ICAO Doc. AN/WP-4531, 2 March 1976.

[160] Classification, packaging, labelling, marking, articles permitted for air transport and intermodal compatibility.

[161] Education and training of key personnel involved in the transportation of hazardous materials, responsibilities of the shipper and operator, inspection requirements and penalties for violators.

[162] Air Navigation Commission, Carriage of Hazardous Materials in Aircraft, ICAO Doc. AN/WP-4531, 2 March 1976, at 4.

[163] Option 1: No new annex or technical manual; SARPs included in one or more existing annex. Recommendations for Contracting States to follow the IATA Regulations.
Option 2: New annex, no technical manual: Recommendations for Contracting States to follow the IATA Regulations.
Option 3: New annex and new technical manual: Duplication of IATA and ICAO work, possibility of confusion,

the whole matter to IATA, as ICAO had done for two decades, would have been more disadvantageous than advantageous.

On one hand, it cost less, required less effort and maximized utilization of IATA's experienced technical organization. On the other side, ICAO would have to depend upon a private organization, with the problem of an ICAO annex making reference to regulations of a non-governmental organization.[164]

The fourth option was prefered: an ICAO annex and technical manual with "substantial, specified, technical input with respect to the dangerous goods manual from the IATA Restricted Articles Board... IATA would have to agree to harmonize whatever airline industry regulations it chose

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more time required.

Option 4: New annex and new technical manual, with IATA's active participation. ibid.

[164] Disadvantages: a) ICAO would have no voice in what articles would be permitted, the quantity allowed or the packaging requirements; b) reluctance of some States to adopt and enforce the IATA regulations; c) by virtue of having placed all technical responsibilities in the hands of IATA and, therefore, not having specialized staff, ICAO would not be equipped to represent effectively the interests of civil aviation in the various United Nations forums which are becoming increasingly active in the international regulation of the transport of dangerous goods by all modes; d) the IATA regulations are available in only some of the ICAO working languages (currently only English and French); e) the IATA regulations are not completely aligned with basic UN recommendations; f) it would require references in an ICAO annex to non-governmental regulations; and g) need for ICAO to acquire and distribute to States annually non-ICAO material (IATA Restricted Articles Regulations). ibid. at 9 para. 4.2.

to publish with the ICAO dangerous goods SARPs and the technical manual."[165]

As for its authority to deal with the matter, the Commission found that it "could no doubt use the clause at the end of Article 37 of the Chicago Convention which covered "such other matters concerned with the safety, regularity and efficiency of air navigation as may from time to time appear appropriate.""[166]

2. Establishment of a Panel of Experts

On 18 March 1976, the Air Navigation Commission suggested the creation of a panel of experts from States and international organizations to draft SARPs and supporting materials, and of machinery to keep guidance material up to

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[165] ibid. at 8.

[166] Air Navigation Commission, 81st Session, Minutes of the 16th Meeting, 17 March 1976, ICAO Doc. AN Min. 81-16, 13 April 1976, at 95 para. 22. Article 37 gives a list of what international standards and recommended practices and procedures ICAO may adopt and modify. After a list, it adds at the end: "and such other matters concerned with the safety..." A Commissioner expressed his concern that the subject had "legal implications of considerable scope" and it would lead to "lengthy legal discussions before any efficient and valid technical work could be carried out." Air Navigation Commission, 81st Sess., Minutes of the 27th Meeting, 15 April 1976, ICAO Doc. AN Min. 81-27, 25 May 1976, at 164.

date.[167] There would be two stages, one a Panel of Experts, to develop SARPs and supporting guidance material, and two, the keeping of SARPs up to date.

The Air Navigation Commission President explained to the Council that the carriage of dangerous goods by air was very important.[168] As there was no formal international agreement on the transport of such materials and since ICAO had no technical expertise to prepare the SARPs, a Panel of Experts was needed which would take advantage of the available IATA expertise.

The Council agreed in principle with this approach.[169] On 16 June 1976, the Air Navigation Commission

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[167] Air Navigation Commission, 81st Sess., Minutes of the 17th Meeting, 18 March 1976, ICAO Doc. AN Min 81-17, 13 April 1976, at 104 para. 18.

[168] "It is estimated that over half of the materials carried by all modes of transport are in the hazardous category and that there is scarcely any activity in the world which is not to some extent dependant on such materials manufactured or processed in some other part of the world. Due to economic imperatives and/or technical reasons, an increasing volume of these materials... is being transported by air... In some States, commercial air shipments of radioactive materials alone exceed 1 000 000 per year... Furthermore the introduction of wide-bodied aeroplanes has resulted in relatively more cargo, and hence more dangerous goods, being carried on passenger aircraft." Council, 88th Sess., **1534th Report to Council by the President of the Air Navigation Commission, Carriage of Hazardous Materials in Aircraft**, ICAO Doc. C-WP/6344, 20 April 1976, at 1 and 2.

[169] Council, 88th Sess., Minutes of the 2nd Meeting, 9 June 1976, ICAO Doc. 9170-C/1032 C-Min. 88/2, 1976, at 11 and 12.

established a panel on the carriage of dangerous goods by aircraft, with the task of developing SARPs and supporting technical manual, which are now the Annex 18 to the Chicago Convention and the Technical Instructions for the Safe Transport of Dangerous Goods by Air.[170]

D. The Dangerous Goods Panel

The Dangerous Goods Panel held its first meeting from 11 to 28 January 1977 and its eleventh one from 21 September to 2 October 1987. The Council adopted Annex 18 on 26 June 1981, on the basis of the report of the Fifth Panel Meeting as agreed to by the Air Navigation Commission. Since this

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[170] Air Navigation Commission, 82nd Sess., Minutes of the 9th Meeting, 16 June 1976, ICAO Doc. AN Min. 82-9, 20 August 1976, at 50 to 52, considering **Establishment of Panel on Carriage of Dangerous Goods by Aircraft**, ICAO Doc. AN-WP/4568, 11 June 1976.

The tasks of the Panel comprised: a) the development of SARPs containing provisions relating to at least the classification, limitation of dangerous goods permitted, labelling and handling of dangerous goods plus provisions relating to shippers' and operators' responsibilities, notification of flight crews and other authorities, training of personnel and internal compliance. The basis for these SARPs will be the Recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods and the Regulations for the Safe Transport of Radioactive Materials of the International Atomic Energy Agency, adapted as necessary to the special requirement of air transport; and b) the development of a supporting technical manual containing all the detailed materials necessary for uniform international adherence to the SARPs. Dangerous Goods Panel, 1st Meeting, **Task of the Panel, Agenda and Organization of the First Meeting**, ICAO Doc. DGP/1-WP/1, Appendix A, 7 October 1976.

meeting, the Panel met to suggest the appropriate amendments to the Annex and Technical Instructions.

At the First Panel Meeting,[171] the Panel Members looked at existing regulations, airline tariffs, manuals and set out an outline for standards and recommended practices (SARPs). The IATA representative expressed the fear that, if in the translation and adoption of the SARPs, different governments amended their own regulations at different times, there would be conflict and chaos.[172]

One of the Panel's problems was that all members did not consider it important to use the United Nations Recommendations as a basis, even if they were directed to do

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[171] Agenda Item 1. Development of SARPS relating to the carriage of dangerous goods.
Agenda Item 2. Development of supporting technical material.
Agenda Item 3. Future activities.

[172] Dangerous Goods Panel, 1st Meeting, **Development of Supporting Technical Material**, ICAO Doc. DGP/1-WP/4, 13 January 1977, at 3 para. 8; "a Government which has its own regulations may introduce major changes, to become effective by a given date, which does not co-incide with the issue date of the international regulations. In such cases, "foreign" carriers must also comply with any national requirement when transporting dangerous goods to and from such countries. Even if it wished to do so, the changes and thus international shipments would not be in compliance with national requirements. Conversely, if shippers and carriers were aware of the national "changes" and shipped accordingly, they would then be out of compliance with the internal requirements. This is a ludicrous situation which if not effectively solved and could result in a complete stoppage of the movement by air of dangerous goods between the country concerned and the rest of the world." ibid. at 5 para. 16.

so.[173] According to the IATA representative, there were two obstacles for the full adoption of the UN Recommendations:

> "Firstly, the special conditions and requirements pertaining to air transport must be taken into regard and UN unreservedly recognise that this should be so. Secondly, and more importantly, it is not possible for a modal regulatory authority to fully reflect UN Recommendations, if a Government which already has produced dangerous goods regulations does not also either adopt, or at least recognise, the UN Recommendations, and the modal regulations which are based in UN Recommendations,"[174] the U.S.A. being an example of such a Government.

The Panel had to decide what would be in the Annex, what would be in the Technical Instructions. The Annex would have mandatory force under the Chicago Convention, but not the Technical Instructions. It believed nonetheless that "they would still have the moral force of ICAO's name behind them and experience had shown that this was normally sufficient for them to be adopted into national codes."[175]

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[173] Air Navigation Commission, **Dangerous Goods Panel (DGP) - Review of the Report of the First Meeting of the Panel, Dangerous Goods Panel (DGP) - Dates, Agenda and Administration Arrangements for the Second Meeting of the Panel**, ICAO Doc. AN-WP/4653, 17 March 1977; 84th Sess., Minutes of the 31st Meeting, 28 March 1977, ICAO Doc. AN Min. 84-31, 24 April 1977, at 170.

[174] Dangerous Goods Panel, 1st Meeting, **Development of Supporting Technical Material**, ICAO Doc. DGP/1-WP/4, 13 January 1977, at 3 para. 10.

[175] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Do. DGP/1-WP/5, 27 January 1977, at 1-1 para. 1.2.

VI. THE DEVELOPMENT OF ANNEX 18

While the International Maritime Dangerous Goods Code was adopted as an IMO Assembly Resolution,[176] ICAO adopted its version of the UN Recommendations under its Convention. The proposed Annex was then divided into 12 Chapters, as in its final version. The only differences were that there were two additional chapters, a Chapter 5 on Radioactive Materials, which was deleted after it was decided that these should be treated like other dangerous goods in the Annex, and what is now twelfth Chapter on Dangerous Goods Accident and Incident Reporting.

A. Content

The actual 12 Chapters are:

Chapter 1. Definitions

Chapter 2. Applicability

Chapter 3. Classification

Chapter 4. Limitation on the Transport of Dangerous Goods by Air

Chapter 5. Packing

Chapter 6. Labelling and Marking

Chapter 7. Shipper's Responsibilities

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[176] Resolution A.81(V), of 27 September 1965.

Chapter 8. Operator's Responsibilities

Chapter 9. Provision of information

Chapter 10. Establishment of Training Programmes

Chapter 11. Compliance

Chapter 12. Dangerous Goods Accident and Incident Reporting

B. Amendments

Amendment to the Technical Instructions requires only the Council's approval. With respect to an ICAO Annex, the Council must follow the procedures set out in the Chicago Convention, Articles 37, 38, 54 (1), and 90, and provide for a delay for States to file their differences with the Annex, while the changes to the Technical Instructions are effective when approved and, if States may file variations to them, they still continue to be in force.

At the time, the Panel realized that the provisions of the Annex were too detailed and that the rapid amendment of the Technical Instructions would be impossible. It was important that the Technical Instructions not contradict the Annex, and it might become impossible for the States to implement both.

The Eighth Panel Meeting informed the Air Navigation Commission that it felt hindered by the large amount of

details contained in the Annex and agreed that there was a positive need for a complete review of the whole of Annex 18.[177] The Annex should include only general principles and not detailed requirements.

Moreover, the Panel was informed that, in Assembly Resolution A24-7, Appendix A, of 1983, States had requested ICAO to avoid too many modifications to the Annexes. The Council adopted the practice that only amendments with an immediate impact on the safety, regularity and efficiency of international civil aviation would be adopted on a yearly basis, the other amendments being consolidated into a package adopted every three years.[178]

The frequency of amendments to Annexes is an old problem. As early as 1965, looking at the problems of implementation of Annexes due to a high rate of amendments, the Technical Commission reported to the Assembly its support "for reducing the content of Annexes to broad and basic material, which by its nature does not change frequently, by transferring to documents of lower status, primarily PANS [Procedures for Air Navigation Services], the

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[177] Dangerous Goods Panel, 8th Meeting, **Report**, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 2-2.

[178] Dangerous Goods Panel, **Forthcoming Meetings**, ICAO Doc. DGP-Memo/41, 14 September 1984, at para. 3. Adopted by Council, 109th Sess., Minutes of the 17th Meeting, 27 June 1983, ICAO Doc. 9406-C/1075 C-Min. 109/17, 1983, at 107 para. 8.

detailed material which is subject to more frequent change."[179]

The Secretariat submitted to the Air Navigation Commission that one of the agenda items of the Ninth Panel Meeting should be:

> "Commencement of a complete review of Annex 18 with the aim of recommending a shortened Annex containing general principles only and avoiding, as far as possible, a repetition of detailed requirements which appear in the TI."[180]

There was some concern in the Commission that such an exercise was beyond the terms of reference of the Panel, that the trend of reducing Annex 18 should not go too far. The Commission agreed only that the Panel should identify, with reasons, those paragraphs of Annex 18 which appeared to need to be simplification.[181]

This work was carried out by the 1987 Working Group Meeting of the Whole Panel and submitted to the Air Navigation Commission and the Council by the Eleventh Panel Meeting. The Council adopted it as Amendment Number 4 to

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[179] Assembly, 15th Sess., Report of the Technical Commission, ICAO Doc. 8524 A15-TE/52, 1965, at 36 para. 47.

[180] Air Navigation Commission, Dangerous Goods Panel (DGP) - Need, Dates and Agenda for the DGP/9 Meeting, ICAO Doc. AN-WP/5649, 25 July 1984, at 2 para. 3.2.

[181] Air Navigation Commission, 107th Sess., Minutes of the 1st Meeting, 18 September 1984, ICAO Doc. AN Min. 107-1, 6 November 1984, at 6.

Annex 18 on 24 February 1989, applicable on 16 November 1989.

C. Chapter 1. Definitions

1. Dangerous Goods

The first definition of "dangerous goods" referred to goods capable of posing an unreasonable risk. Following comments of some countries that this was a subjective definition since it referred to what was "unreasonable", this was changed by the inclusion of the word "significant" risk.[182]

On many occasions, it was suggested that "hazardous" be used in place of "dangerous". American regulations talk about "hazardous materials", while the IATA Regulations talked about "restricted articles". "Dangerous" was kept as it was in conformity with the UN terminology.

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[182] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, App. B, 8 June 1979, at B-24; 92nd Sess., Minutes of the 6th Meeting, 26 September 1979, ICAO Doc. AN Min. 92-6, 23 October 1979, at 28.

2. Shipper

The First Panel Meeting adopted a definition of "shipper" but had "considerable difficulties" over it. It looked at commercial aspects, but preferred to consider the functional ones, i.e. who should sign the Shipper's Certificate.[183]

The Third Panel Meeting changed the definition to align it with Article 10 (1) of the Warsaw Convention. Because the definition was regarded as crucial to the effectiveness of the regulations, the Panel adopted it as an interim one pending review by appropriate legal experts.[184]

Some countries criticized this definition, arguing it was confusing since the definition could include agents or freight forwarders, persons not entitled to sign the Shipper's Certificate. Other countries said it did not

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[183] "Shipper: the person, organization or enterprise responsible for the proper preparation of the consignment, including the determination of proper shipping name, classification, packing, marking and labelling and certification in writing, in accordance with all applicable regulations and ready for delivery to the aircraft operator and safe carriage by air."

[184] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-2 para. 1.2.2.1. "Shipper": "the person, organization or enterprise responsible for the correctness of the particulars and statements relating to the dangerous goods as shown in the Shipper's Certificate and/or Air Waybill". ibid. at 1-I-4.

include the freight forwarders "who, unquestionably, perform the functions of a shipper when consolidating cargo and tendering it to a carrier."[185] The Americans suggested it be changed to "person who offers a dangerous goods for transport".

Looking at the serious deficiencies of all the definitions of "shipper" which it was considering, the Fifth Panel Meeting decided to delete the definition from the suggested Annex. It was preferable to make the person offering the goods for transport responsible. This person "would then be up to him to ensure that all others involved in the preparation had carried out their obligations correctly". Some opposed this point of view, stating "some agencies who would be consolidating shipments from many different sources prior to offering them for transport would find it almost impossible to accept the responsibility which was required." The Panel deleted the definition and put in the Technical Instructions that "the person who offers dangerous goods for transport by air" had to accept the responsibility for proper preparation of the shipment.[186]

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[185] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B., at B-38 and B-39.

[186] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 1-9 and 1-10 at para. 1.6.5; **Technical Instructions for the Safe Transport of**

The actual Chapter 7 of Annex 18 on "Shipper's Responsibilities" does not refer to the shipper who shall do this and that, but to the person who offers the dangerous goods.

3. Passenger Aircraft

There was a debate on another definition: "passenger aircraft". Considering that some dangerous goods were forbidden on "passenger aircraft", some Panel members suggested that, because of the higher degree of risk, the only people who could accompany dangerous goods in a cargo only aircraft should be persons directly involved with the specific operation, and not ordinary crew members. The Panel concluded nonetheless that it was not its task to tell the operators which employees should travel with the goods.[187]

With this position in mind, the interpretation of the definition of "passenger aircraft" had unintended effect. The definition says:

Dangerous Goods by Air, 1989-1990 Edition, ICAO Doc. 9284 AN/905, 1988, Part 4, Chapter 4, para. 4.1.1.

[187] The Panel did not accept the reasoning that the persons who could be carried on cargo aircraft should be restricted to those having direct involvement with the specific operation. Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-2.

> **Passenger Aircraft.** An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment.

As to consignment, the definition says it is "one or more packages of dangerous goods accepted..."

Considering that (1) in cargo aircraft persons accompany securities or live animals, and (2) the definition of "consignment" refers only to dangerous goods, if a person accompanies something other than dangerous goods, the aircraft is no longer a cargo aircraft for the purpose of carriage of dangerous goods but a passenger aircraft.[188] For example, on many occasions horse grooms, not employed by the operator, accompany shipments with the operators loading "cargo-aircraft-only-dangerous-goods" in the aircraft.[189] Moreover, when the IATA Permanent Working Group on Restricted Articles had agreed on a definition of **Passenger Aircraft** in 1956, there was a specific reference to animal attendant.[190]

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[188] Dangerous Goods Panel, 8th Meeting, **Definition of Passenger Aircraft**, ICAO Doc. DGP/8-WP/40, 19 December 1983.

[189] Dangerous Goods Panel, 11th Meeting, **Report**, ICAO Doc. DGP/11-WP/2, 2 October 1987, at 5 para. 3.2.

[190] "Passenger Aircraft An aircraft carrying any individual other than a flight crew or crew member, company employee, animal attendant, or an authorized government representative." **Report of the Fourth Meeting IATA Permanent Working Group on Restricted Articles The Hague, May 7th-17th, 1956**, at 19 para. M/98. In 1958, following the

The Panel felt that the definition of "passenger aircraft" was now more restrictive than intended,[191] because the presence of somebody accompanying goods other than dangerous goods results in the designation of the aircraft as a passenger aircraft, thus restricting the nature of goods which are allowed to be carried by the aircraft. The Council added, after the definition, "or other cargo" in Amendment No. 4 to the Annex (... a person accompanying a consignment or other cargo).

4. Consignment

The suggested definition of "consignment" was amended in accordance with IATA Resolution 600 and the Warsaw Convention to show that it related to "one shipment offered at one time".[192]

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revision of the American Civil Air Regulations effective 25 June '58, the Working Group changed the definition for the following: "An aircraft carrying an individual other than a flight crew, or crew member, company employee, individuals accompanying shipments, or an authorized government representative." **Report of the Sixth Meeting Namur (Belgium), May 5th-13th,** 1958, at 3 para. M/12.

[191] Dangerous Goods Panel, 8th Meeting, **Report**, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 2-1.

[192] Suggested definition: " Means one or more packages of goods offered by the shipper to an aircraft operator for carriage by air." Actual: "One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving on one Air Waybill to one consignee at one

The Air Navigation Commission has suggested that the 1989 Amendment should delete from the definition any reference to "Air Waybill". In response to IFALPA's comments that it was opposed to the omission of the requirement of an air waybill, "as long as the legal consequences of such an omission have not been explored, explained or researched by ICAO", the Secretariat answered that, "in practice, an air waybill is not always used for dangerous goods consignments".[193] Moreover, the Warsaw Convention does not oblige the carrier to issue an Air Waybill.

If the carrier "must deliver a passenger ticket" (Article 3 (1)) and "must deliver a luggage ticket" (Article 4 (1)), he has "to require the consignor" to make out and hand over to him the air waybill, the absence of which does not affect the existence or validity of the contract of carriage (Article 5 (1)). However, if it is absent or

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destination address." Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-I-2. Since the Panel suggested in 1987 the deletion of any reference of air waybills in the Annex, "since an air waybill is not always used for dangerous goods consignments", it proposed the deletion of "on one Air Waybill" from the definition of consignment, which was adopted by the Council in Amendment No. 4 to the Annex of 1989. 11th Meeting, **Report**, ICAO Doc. DGP/11-WP/47, 2 October 1987, at 2-A-1.

[193] Air Navigation Commission, **Final Review of the Amendments to Annex 18 in the Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/6228, 26 July 1988, at 6.

incomplete, the carrier will not be entitled to avail himself of the provisions of the Convention excluding or limiting his liability (Article 9). Since the air waybill is not always used and not compulsory under the Warsaw Convention, the Dangerous Goods Panel did not want to create a requirement.

D. Chapter 2. General Applicability

The standards and recommended practices of Annex 18 are applicable to all international operations of civil aircraft.[194]

1. Aerial Work

A Panel Member proposed to exclude, from the application of the Technical Instructions, specialized flights, or "aircraft flying in order to: a) convey a person who is ill; b) carry an animal; c)drop substances or articles for the purpose of agriculture, horticulture or forestry", because dangerous goods are used whilst on the

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[194] Article 3 of the Chicago Convention: (a) This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft; (b) Aircraft used in military, customs and police services shall be deemed to be state aircraft.

aircraft and the normal requirements cannot be complied with.[195]

Instead of a specific exclusion, the Eleventh Panel Meeting proposed an amendment to the actual paragraph 2.1 to the effect that the SARPs are applicable to all international operations of civil aircraft "other than aerial work", following the precedent of the Part II of Annex 6 adopted on 2 December 1968.[196]

Chapter 2 of Part II of Annex 6 excludes from the applicability of Part II "aerial work". The Eleventh Panel Meeting suggested the inclusion in the Annex 18 of the same definition of "aerial work":

> "Specialized commercial aviation operations, not including air transport operations, within the scope of Annex 6, Part I, performed by aircraft, chiefly in agriculture, construction, photography and surveying."

This proposition was nonetheless a matter of concern for the Air Navigation Commission. In fact, "it was feared that a sweeping exemption of one type of aviation activity in the general applicability provision... would leave a

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[195] Dangerous Goods Panel, 9th Meeting, **Carriage of Dangerous Goods on Specialised Flights**, ICAO Doc. DGP/9-WP/50, 31 January 1985, at 2.

[196] Dangerous Goods Panel, 11th Meeting, **Report**, ICAO Doc. DGP/11-WP/47, 2 October 1987, at 2-A-2.

loophole and significantly reduce the level of safety guaranteed by Annex 18."[197]

In the State Letter presenting to States the proposed amendment to Annex 18,[198] the Commission suggested, as an alternative to the Panel's recommendation, not to add the words "other than aerial work". The Commission stated that the proposed new para. 2.4.1., which excluded from the applicability of the Annex dangerous articles or substances "for those specialized purposes identified in the Technical Instructions", would adequately cover the specific cases presented during the meetings. This approach required an amendment to the Technical Instructions to specifically identify the types of operations to be excluded.

States agreed with the Commission's views. The proposition to add any reference to aerial work was deleted from the proposed amendment. The Secretariat suggested that the Dangerous Goods Panel to develop a suitable text for inclusion in the Technical Instructions.[199]

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[197] Air Navigation Commission, 116th Sess., Minutes of the 14th Meeting, 17 November 1987, ICAO Doc. AN Min. 116-14, 1 December 1987, at 74 para. 10.

[198] State Letter dated 17 February 1988, ICAO Doc. AN 11/27.1.3. - 88/11.

[199] Air Navigation Commission, **Final Review of the Amendments to Annex 18 in the Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/6228, 26 July 1988, at 8 to 10.

2. Departure from the Requirements

The dangerous goods provisions were to be divided into three main categories:

a) those which may be transported according to quantity limitations and packing requirements specified in the Technical Instructions;

b) those which are normally forbidden for transport but which may be carried under the provisions of the exemption procedure; and

c) those which are forbidden under any circumstances.

There are also the articles and substances which would otherwise be classed as dangerous but which are required to be aboard the aircraft in accordance with the pertinent airworthiness requirements and operating regulations, and which are excepted from the provisions of Annex 18.[200]

The Dangerous Goods List is found in the Technical Instructions and divided into twelve columns, containing the Name, the UN Number, Class or Division, Subsidiary Risk, Labels, State Variations, Special Provisions, UN Packaging Group, Passenger Aircraft Packing Instructions and Quantity Limitation, and Cargo Aircraft Packing Instructions and Quantity Limitation.

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[200] Paragraph 2.4.1 of the Annex.

a. Exemptions

The First Panel Meeting concluded that a State might be given an exemption in case of extreme emergency, provided the level of safety remained the same. In its proposed standard the Panel gave two examples of emergencies, pestilence and urgent humanitarian need, which the Air Navigation Commission later abandoned. Examples of extreme emergencies had their place in the Technical Instructions.[201]

The Panel later added that such exemptions could be given in three separate cases, such as extreme urgency "or when other forms are inappropriate or full compliance with the prescribed requirements is contrary to the public

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[201] Air Navigation Commission, 88th Sess., Minutes of the 13th Meeting, 13 June 1978, ICAO Doc. AN Min. 88-13, 23 August 1978, at 62.

interest",[202] leaving to States to decide what they consider to be in the "public interest".[203]

The First Panel Meeting had suggested that in these cases, SARPs "may be waived... provided that the necessary permission has been obtain from the States concerned." Following an IATA suggestion, the Second Panel Meeting deleted the "provided that the necessary permission has been obtain from", making it clear then that the "authority" who could waive the SARPs was "the States concerned". The paragraph was modified to say that the States concerned may grant exemptions, provided that the overall level of safety in transport is at least equivalent to the one required by the Annex.[204] Paragraph 2.1 now says that "the States

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[202] In the previous paragraph, a coma was separating "urgency" and "when other forms... are inappropriate". This could have been interpreted as cumulative cases. The two disjunctive "or" separating each cases were added in para. 2.1 in Amendment 3 to Annex 18 to show that they were three separate cases: Council, 114th Sess., Minutes of the 6th Meeting, 25 March 1985, ICAO Doc. 9461-C/1087 C-Min.114/16, 1985, at 144, applicable 1 January 1986.

[203] Dangerous Goods Panel, 8th Meeting, **Report**, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 1-1 and 1-2. "A truck may carry 8 tons of explosives from, e.g. Paris to Budapest. Distance approximately 1 600 km, it passes through 36 cities and 129 villages. The alternative: fly it, it takes approximately two or three hours. Compare the risk for the public and come to the conclusion that trucking the cargo is "contrary to the public interest"!" 11th Meeting, **Dangerous Goods Forbidden for Transport by Air unless Exempted**, ICAO Doc. DGP/11-WP/18, 29 July 1987, at 2.

[204] Dangerous Goods Panel, 2nd Meeting, **Review of Draft SARPS Developed at DGP/1 to Ensure Consistency Between SARPS and Dangerous Goods Supplementary Technical Document**, ICAO

concerned may grant exemptions... provided that in such cases every effort shall be made to achieve an over-all level of safety in transport which is at least equivalent to the level of safety provided by these provisions."

Some countries remarked that if an exemption was granted, "the equivalent level of safety cannot, by definition, be achieved." Paragraph 2.1 was therefore amended to say "provided that in such cases every effort shall be made to achieve an over-all level of safety..."[205]

Some Panel Members were of the opinion that some exemptions could be granted in circumstances outside of those intended and suggested that there should be added, after the definition of "exemption", that "such exemptions should only be issued for essential reasons".[206] This suggestion was not adopted.

The Panel concluded that the expression "States concerned" should be defined and added Note 1 after the Standard. Note 1 states that the expression includes States

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Doc. DGP/2-WP/6, 4 May 1977, at 3; 2nd Meeting, Report, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 2-7 para. 2.1.

[205] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-46 to B-48.

[206] Dangerous Goods Panel, 8th Meeting, **Report of the Working Group Meeting Held in Tokyo 3 - 7 October 1983**, ICAO Doc. DGP/8-WP/2, 9 November 1983, at 5 para. 10.

of origin, transit, overflight, and destination of the consignment and the State of the Operator. The equivalent was added to the Technical Instructions.[207]

Of course, it may well happen that the State of origin and destination grant an exemption. It is obvious that "countries of overflight are not interested at all in granting overflight exemptions because of the simple pragmatic fact that the State earns not a penny and takes the risk that in the case something happens during overflight, a crash maybe, the CAA of that State will be blamed by the public for endangering the State by granting such an exemption."[208] For this reason, it is interesting to note the definition of "multilateral approval" for radioactive materials in the Technical Instructions, does not include the State of overflight as a State concerned.[209]

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[207] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-2 para. 1.2.1.2; 1-I-1 para. 1.1; 2-6 para. 2.1.

[208] Dangerous Goods Panel, 11th Meeting, **Dangerous Goods Forbidden for Transport by Air Unless Exempted**, ICAO Doc. DGP/11-WP/18, 29 July 1987, at 2.

[209] **Multilateral Approval.** Approval by both the competent authority of the State of origin and of each State through or into (see Note) which the consignment is to be transported.

Note. - The term "trough or into" specifically excludes "over", i.e. the approval and notification requirements would not apply to a State over which radioactive materials are carried in aircraft, provided that there is no scheduled stop in that State. Technical Instructions, at 2-7-2.

In light the legal problems relating to a State's sovereignty over its airspace, the Panel rejected the liberalization of exemptions procedures by removing the requirements of authorization of the State of overflight.[210]

In November 1988, the Air Navigation Commission requested the Secretary to obtain information from selected States and international organizations on how the exemption provisions "were being applied and on any problems encountered in relation to the exemption procedures", in order to report to the Commission before the next Panel meeting.[211]

After reviewing the answers received from States, the Secretariat wrote that, on the part of the majority of States, "there is no misunderstanding of the conditions and procedures applying to the issuance of exemptions."[212] It added that the low number of exemption requests received might suggest that exemptions are not being sought because Annex 18 and the Technical Instructions are not complied with by the shippers and operators.

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[210] Dangerous Goods Panel, 11th Meeting, **Report**, ICAO Doc. DGP/11-WP/47, 2 October 1987, at 1-4 para. 1.2.9.4.

[211] Air Navigation Commission, 119th Sess., Minutes of the 14th Meeting, 17 November 1988, ICAO Doc. AN Min. 119-14, 8 December 1988, at 65 para. 16; **Amendment of Annex 18**, ICAO Doc. DP No. 2 to AN-WP/6228, 1 November 1988.

[212] Air Navigation Commission, **Amendment to Annex 18-Exemption Provisions, Review of Information Provided by States**, ICAO Doc. AN-WP/6333, 12 June 1989, at 2 para. 2.1.

b. Approvals

Paragraph 4.2 of the Annex says that some articles and substances shall be forbidden unless exempted by the States concerned under para. 2.1, and unless the provisions of the Technical Instructions indicate they may be transported under an approval issued by the State of Origin. This is another way to depart from the requirements.

When the Dangerous Goods Panel first developed the dangerous goods list, it had to choose between (1) the instructions of the UN Committee of Experts Recommendations with the U.S. DOT and IATA Regulations, though this would result in some inconsistencies as different sources were being considered, or (2) construction of a matrix of hazard classes and packaging groups "wherein the gradation of hazards is reflected logically in a gradation of quantity limitations on passenger and cargo aircraft",[213] knowing that using matrices might result in more liberal quantities being permitted for many dangerous goods carried on passenger and cargo aircraft. It considered it be essential that substances should have a uniformity of treatment.

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[213] Dangerous Goods Panel, 3rd Meeting, Report, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-4.

Nonetheless, since some goods were being carried while they were forbidden under existing regulations of the U.S. Department of Transportation and IATA, the Technical Instructions provided for special provisions for carriage under approval of States concerned. Some goods (in the A2 and A3 categories in the Dangerous Goods List) required only the approval of the State of origin for cargo aircraft, without the requirements of exemptions (para. 2.1 of the Annex; para. 1.1, part 1, of the Technical Instructions).

For passenger aircraft, approval of all the States concerned was still required.

At the Eight Panel Meeting, some participants reported that this system led to confusion. Since the Supplement to States[214] to the Technical Instructions included lists of forbidden dangerous goods with their suggested quantities and packaging instructions for their carriage, "it would appear that all forbidden dangerous goods, except those which are forbidden for transport by air

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214 The Fourth Panel Meeting noted that the draft of the Technical Instructions contained much information of no interest to the shippers and operators, some of which would be more valuable to a national authority like exemptions and approval. The majority of Air Navigation Commissioners agreed that the Technical Instructions should be in two parts, one a field document, the other containing material principally of interest to national authorities. Dangerous Goods Panel, 4th Meeting, Report, ICAO Doc. DGP/4-WP/2, 25 January 1980, at 3 para. 2.2.6; Air Navigation Commission, 93rd Sess., Minutes of the 6th Meeting, 11 February 1980, ICAO Doc. AN Min. 93-6, 3 March 1980, at 27 para. 14.

under any circumstances, may be carried under state exemption provisions and that this is widely known and promulgated".[215] Since it appeared that shippers and operators would need to know the classification procedures for explosives, the information to be presented for an exemption which, if granted, might refer to a packing instructions only included in the Supplement,[216] the Ninth Panel Meeting introduced a reference in the Foreword to the Supplement at the front of the Technical Instructions.[217]

One of the Panel's suggestions was that, in the A2 category, the approval of the State of origin would be enough to enable the carriage of these goods in a passenger

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[215] "This gives the impression that the Supplement actually comprises a further set of regulations available to States under which the requirements of the Annex and the Technical Instructions may be considerably modified in a less restrictive manner." Dangerous Goods Panel, 8th Meeting, **State Exemption Procedures**, ICAO Doc. DGP/8-WP/21, 23 November 1983, at 2. "The matrix of quantity limitations contained in the Supplement had originally been intended as guidance for the panel during the construction of Table 2-14. However, it was not used in the Supplement as guidance to States in the granting of approvals or exemptions, a task not necessarily appropriate." 9th Meeting, **Report of the Dangerous Goods Panel Working Group Meeting (Brussels, 15-19 October 1984)**, ICAO Doc. DGP/9-WP/3, 9 November 1984, at 4 para. 16.

[216] Dangerous Goods Panel, 9th Meeting, **Report of the Dangerous Goods Panel Working Group Meeting, (Brussels, 15-19 October 1984)**, ICAO Doc. DGP/9-WP/3, 9 November 1984, at 2 para. 6.

[217] Dangerous Goods Panel, 9th Meeting, **Miscellaneous Changes to the Technical Instructions**, ICAO Doc. DGP/9-WP/6, 21 November 1984, at 1.

aircraft, in light of the good record of the current provision for cargo flights and the fact that purely cargo flights were more and more being replaced by mixed passenger/cargo flights. The list of dangerous goods was modified.[218] The Air Navigation Commission decided to leave these provisions unchanged pending consultation of States[219] and sent the Panel's views in a State Letter.[220]

The majority of States accepted the Panel's

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[218] Dangerous Goods Panel, 8th Meeting, **Report**, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 1-2 para. 1.2.3.3 to 1.2.3.5.

[219] Air Navigation Commission, 105th Sess., Minutes of the 14th Meeting, 21 March 1984, ICAO Doc. AN Min. 105-14, 1 May 1984, at 56.

[220] "Special Provision A2 allows certain dangerous substances, which are normally forbidden, to be carried under conditions laid down in the Supplement with the approval of the State of Origin in the case of cargo aircraft or with the approval of all the States concerned in the case of passenger aircraft. This procedure has worked well for cargo aircraft but has been very difficult to apply for passenger aircraft. For other than the simplest of international flights, it has proved almost impossible to obtain the necessary advance approval from all the authorities concerned, i.e. from the States of Origin, transit, overflight and destination of the consignment and the State of the Operator. The panel's opinion is that approval by the State of Origin alone has proved to be safe and sufficient for cargo aircraft and this could now be extended to apply also to passenger aircraft. The panel recommends such a change and with this in mind has reviewed all the entries in the list of dangerous goods that are annotated with Special Provision A2; and made changes in the list where was appropriate." Attachment D to State Letter AN 11/27.1.2 - 84/48 dated 12 July 1984.

Recommendation.[221] However since they had made some reservations, the Commission agreed to add a provision that "as long as no concerned State had filed a variation to Special Provision A2, the approval of the State of Origin would be acceptable."[222]

c. Small Quantities

Some items, like samples, pieces of some apparati, or small test kits (against illegal drugs), contain such a minute quantity of some dangerous goods, as to make the hazard of transport virtually negligible.

In 1972, the IATA Restricted Articles Board discussed the desirability of accepting small quantities of restricted articles without the required labelling and certification.

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[221] Air Navigation Commission, **Final Review of Amendments in the Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/5680, 29 November 1984, at 8.

[222] Air Navigation Commission, 108th Sess., Minutes of the 5th Meeting, 30 January 1985, ICAO Doc. AN Min. 108-5, 21 March 1985, at 25. Text adopted by the Council, applicable on 1 January 1986: "A2 This commodity may be transported on passenger aircraft and on cargo aircraft, only with the prior approval of the appropriate authority of the States of Origin under the written conditions established by the authority. For passenger aircraft, where States have notified ICAO that they require prior approval of shipments made under this Special Provision, approval must also be obtained from the States of transit, overflight and destination and of the State of the operator, as appropriate..." Technical Instructions, Chapter 12, at 2-12-1.

But IATA was not ready at the time to eliminate these requirements since this "would be in conflict with governing national regulations of many countries and the U.N.".[223]

The Panel devoted considerable effort[224] to arrive at a decision concerning these goods. The Tenth Panel Meeting made a proposal "to permit certain dangerous goods in small quantities to be carried without fully conforming to the normal requirements of the Technical Instructions. It was considered that this could be done safely and would be of considerable assistance to many shippers."[225]

Because of the safety implications,[226] such as the fact that a flight crew could not identify the nature of dangerous goods in small quantities and would not be able to determine action during an emergency, the Air Navigation Commission wanted to send this proposition to States for

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[223] **Report Nineteenth Meeting IATA Restricted Articles Board Geneva, 18th-26th September, 1972,** at 55 and 56.

[224] Dangerous Goods Panel, 8th Meeting, **Report**, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 1-3 para. 1.2.5; 9th Meeting, **Report**, ICAO Doc. DGP/9-WP/63, 1 March 1985, at 1-4 para. 1.2.7.; 10th Meeting, **Dangerous Goods in Small Quantities**, ICAO Doc. DGP/10-WP/9, 13 November 1985.

[225] Dangerous Goods Panel, 10th Meeting, **Report**, ICAO Doc. DGP/10-WP/58, 7 March 1986, at 1-2 para. 1.2.4.

[226] Air Navigation Commission, 111th Sess., Minutes of the 17th Meeting, 18 March 1986, ICAO Doc. AN Min. 111-17, 15 May 1986, at 81 para. 4.

comments.[227] The Council agreed to adopt the Panel's proposal as the problem had been discussed by the Panel since 1983, and the majority of the Panel's members and technical experts were in favour of it. To ask the States their opinion would delay application of the provision for at least two years, while many industries, like the pharmaceutical one, were awaiting promulgation of these provisions as soon as possible.[228] "Dangerous Goods in Excepted Quantities" is now part of the Technical Instructions, at Part 1 para. 2.5.

3. Interpretation

One State testified that the users of its regulations often asked its national authority about their interpretation. Possibly this would happen with the ICAO Regulations. The First Panel Meeting formulated a Recommendation,[229] which stated that States should set a

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[227] Council, 117th Sess., Minutes of the 21st Meeting, 26 March 1986, ICAO Doc. 9484-C/1093 C-Min. 117/21, 1986, at 199 para. 11.

[228] ibid. at 198 and 199.

[229] "Recommendation.- States should establish a system for recording requests interpretations of regulations based upon these specifications and should transmit summaries of these records to ICAO at least biennially." Dangerous Goods Panel, 1st Meeting, Report, ICAO Doc. DGP/1-WP/5, 27 January 1977, para. 2.2.2.

system for recording requests and pass them to ICAO. The actual Paragraph 2.2.2. says that each State should inform ICAO of the difficulties encountered with the application of the Technical Instructions and of the desired amendments.

4. Domestic Operations

To prevent differences between international and domestic operations, the Panel recommended that countries adopt the Annex for both types of operations. The Air Navigation Commission had suggested the deletion of the Recommended Practice on adoption of the Annex for domestic carriage. It considered coordination between international and domestic regulations was pertinent to general applicability and that no separate recommendation was appropriate.[230] Nonetheless, the Commission changed its mind, following pressure from many States which felt that this Recommendation was necessary for goods were often carried domestically before being carried internationally.[231]

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[230] Air Navigation Commission, 88th Sess., Minutes of the 14th Meeting, 14 June 1978, ICAO Doc. AN Min. 88-14, 1 September 1978, at 64 para. 8.

[231] Paragraph 2.3: **Recommendation.**- In the interests of safety and of minimizing interruptions to the international transport of dangerous goods, Contracting States should also take the necessary measures to achieve compliance with the Annex and the Technical Instructions for domestic civil

5. Exceptions

The transportation of the numerous dangerous goods necessary for operation of the aircraft, as well as all the products the operator is interested in selling to passengers, such as alcoholic beverages, poses a serious problem. Many types of dangerous goods are permitted to be carried in a passenger aircraft, including those products which the carrier sells at a profit.[232]

There was considerable discussion within the Panel about how operators should ship the dangerous spare parts necessary for aircraft to fly. One school of thought argued that since the parts were acceptable when attached to the aircraft, the operator did not have to comply with the regulations, particularly when an aircraft was grounded and the spare parts were urgently needed. For the majority, on the other hand, an operator acting as a shipper had to act according to the requirements. For the first school of thought, this was an impractical position.[233]

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aircraft operations.

[232] Nonetheless, for many passengers, alcoholic beverages are a necessary tool, since they are the only way to combat the stress of flying!

[233] Dangerous Goods Panel, 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 1-6 para. 1.2.4.5.

The proposed paragraph 2.4 contained a long list of products that could be carried.[234] The list was later changed to a general statement, with specifications in the Technical Instructions.

6. Variations from the Technical Instructions

> Paragraph 2.2.1 of the Annex says:
>
> "Each Contracting States shall take the necessary measures to achieve compliance with the detailed provisions contained in the **Technical Instructions for the Safe Transport of Dangerous Goods by Air** (Doc 9284-AN/905), approved, issued and amended in accordance with the procedure established by the ICAO Council."

a. The Development of the Technical Instructions

It was the Air Navigation Commission's intention to produce a manual to support the standards and recommended practices differing from other ICAO manuals. It would be a field manual for all those involved in the transport of dangerous goods, and would be revised frequently, initially

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[234] For example, medicinal or toilet articles, personal smoking materials, small oxygen cylinders required for medical use, etc. Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-19 para. 2.4.

annually.[235] The Council decided in 1986 to issue the Instructions every two years.[236]

(1) Content Specific to the Instructions

One problem faced by the Dangerous Goods Panel was the content of the Annex and the Technical Manual. At its First Meeting, the Panel proceeded on the basis of the following assumptions:

> "a) States will adopt the Annex and the technical manual because of the language in the Annex stating that States shall establish national regulations to ensure the maximum practical compliance with the detailed specifications and procedures contained in the technical manual;
>
> b) It is reasonable to believe that States will adopt both the Annex and the technical manual regardless of the wording in sub-section a) above because it is reasonable and logical to do so; and

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[235] Council, 88th Sess., Minutes of the 2nd Meeting, 9 June 1976, ICAO Doc. 9170 C/1032, C-Min. 88/2, 1976, at 11. The Commission was already familiar with frequent revisions of its materials, such as Annexes 2 (Rules of the Air) and 11 (Air Traffic Services) and the PANS RAC (Procedures for Air Navigation Services - Rules of Air and Air Traffic Services); Air Navigation Commission, 88th Sess., Minutes of the 13th Meeting, 13 June 1978, ICAO Doc. AN-Min. 88-13, 23 August 1978, at 62.

[236] Taking into account the fact that the UN Committee of Experts was meeting every two years and the delay encountered by many States in translating the Instructions into their own national languages. Council, 117th Sess., Minutes of the 21st Meeting, 26 March 1986, ICAO Doc. 9484-C/1093 C-Min. 117/21, 1986, at 200.

> c) When considering items for the technical manual, any that appear to be of a static nature could be transferred to the Annex."[237]

The draft of the technical manual was based on the Recommendations of the UN Committee of Experts on the Transport of Dangerous Goods, the IAEA (International Atomic Energy Agency) Regulations for the Safe Transport of Radioactive Materials, and "any other requirements as necessary". It is interesting to note that the working paper used in creation of the Report to the Air Navigation Commission also relied on the IATA Regulations as a basis for its work. This was not specifically mentioned in the Report,[238] which only noted that the Panel might take into account any other requirements as necessary.

The main reason for the creation of a technical manual was to develop a quick amendment procedure by putting all the detailed information in it. For this purpose, the Fifth Panel Meeting suggested removing from the Annex detailed provisions, the inclusion of which might greatly increase the probability of amendments in the future and

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[237] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 2-1 para. 1.2.

[238] Dangerous Goods Panel, 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 1-1 para. 1.1.1, and, 1st Meeting, **Development of Supporting Technical Manual**, ICAO Doc. DGP/1-WP/3, 22 October 1976, at 1 para. 2.3.

place these in the Technical Instructions.[239] The details in the Annex became an on-going problem for the Panel. The Eighth Panel Meeting agreed there was a positive need for a complete review of the Annex since many of its provisions were unnecessarily restrictive. Such a review should be aimed at achieving a much shorter annex containing only general principles.[240]

(2) The Need for the Technical Instructions

At the beginning, the IATA representative to the Panel repeated that ICAO did not have to develop a technical manual, since it would have had no legal status, and IATA planned to continue the issuance of its own Regulations. Nonetheless, the Panel "considered that States, not industry, should write regulations governing industry day-to-day compliance with the appropriate regulations for protection of the public."[241] For many States it was unacceptable that an international governmental body authorize "a limited base commercial organization to

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[239] Dangerous Goods Panel, 5th Meeting, Report, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 2-1 para. 2.3.

[240] Dangerous Goods Panel, 8th Meeting, Report, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 2-2.

[241] Dangerous Goods Panel, 2nd Meeting, Report, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 3-1 para. 3.1.

effectively control all of its own industry plus major aspects of other industries involved in the transport of dangerous goods."[242] This did not stop IATA from continuing to publish its own "instruction manual", which is still widely used.

The Panel's intention was to draft a manual for direct applications by governments and other users: "a user document for all those engaged in the transport of dangerous goods by air."[243] Nonetheless, some members did not like the idea of calling it a manual, as they wished its obligations to be mandatory in nature.[244]

Some States feared that unless the manual was "at least equal to the IATA regulations as a field document, it will probably result in a decrease in safety, and this would be unacceptable."[245] To the IFALPA observer, the IATA

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[242] "IATA's limited membership unavoidably provides a significant commercial bias to regulations developed by it and consequently must inhibit full international acceptance of such regulations." Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations,** ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-19.

[243] Dangerous Goods Panel, 3rd Meeting, **Report,** ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-1 para. 1.1.2.

[244] ibid. at para. 1.1.4.

[245] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations,** ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-1.

manual would likely be favoured by the workers in the field since it was drafted by people active in the industry.[246]

Another problem for the industry was the change from the IATA system to the ICAO system. Shippers and carriers had many years of experience with the IATA Regulations.

(3) Transitional Period

Since many countries would have to put the Technical Instructions in their own legislation, the long delays encountered before most of the countries could do so would force carriers to continue to use the IATA Regulations. Furthermore, States would have to adopt the amendments to the Technical Instructions simultaneously, some having the extra burden of having to translate the Instructions into their own language.[247]

To overcome the problem of a lengthy transitional period, some Panel members suggested that the Technical Instructions should be reworded as saying that only compliance with the intent of the Technical Instructions was

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[246] Air Navigation Commission, 81st Sess., Minutes of the 18th Meeting, 23 March 1976, ICAO Doc. AN Min. 81-18, 12 May 1976, at 108 para. 9.

[247] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, Comments of IATA, at B-13.

required.[248] However, this did not receive the support of the Panel.[249]

(4) Legal Status of the Technical Instructions

The Chicago Convention does not oblige States to adopt technical guidance adopted by ICAO.[250] The Panel first "understood that such material could not be made mandatory." But its position changed, in favour of making the technical instructions mandatory.[251] It agreed then to improve its position by stating in a standard "that the provisions

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[248] Dangerous Goods Panel, 4th Meeting, **Report**, ICAO Doc. DGP/4-WP/2, 25 January 1980, at 4 para. 2.2.7.

[249] Air Navigation Commission, 93rd Sess., Minutes of the 6th Meeting, 11 February 1980, ICAO Doc. AN Min. 93-6, 3 March 1980, at 26 and 27.

[250] "Under the Convention States are under no obligation to adopt the technical guidance material to be developed by the DGP as a national regulation. Adoption of the technical manual by a State depends upon the status or existence of regulations dealing with dangerous goods within that States. There is nothing in the Convention requiring a State to adopt or recognize guidance or technical material developed to supplement an ICAO Annex..." Dangerous Goods Panel, 2nd Meeting, ICAO Doc. DGP/2-WP/3, 25 April 1977, at 1.

[251] Air Navigation Commission, 92nd Sess., Minutes of the 8th Meeting, 2 October 1979, ICAO Doc. AN Min. 92-8, 24 October 1979, at 40.

contained in the technical document were to be regarded as minimum requirements."[252]

The text later submitted to the Council for approval said that States "shall ensure compliance with the detailed provisions contained in" the Technical Instructions.[253]

A representative to the Council felt "require" should replace "ensure", since States required compliance and took action against those who broke its laws, but could not "ensure" compliance. The Council agreed upon the replacement of "ensure" by "take the necessary measures to achieve (compliance with...)".[254] This wording "indicated that the provisions in the Instructions did not have the status of Standards". Thus no difference under Article 38

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[252] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 2-1 para. 2.2.1.1.

[253] Council, 103rd Sess., **1707th Report to Council by the President of the Air Navigation Commission, Adoption of Annex 18 - The Safe Transport of Dangerous Goods by Air**, C-WP/7261, 31 March 1981, Corrigendum No. 5, 18 June 1981, Suggested Para. 2.2.1 of the Annex. The original text of the proposed annex can be found, without its numerous "corrigenda" and "addenda", in Air Navigation Commission, **Development of an Annex Concerning the Safe Transport of Dangerous Goods by Air, Approval of Draft Report to Council**, ICAO Doc. AN-WP/5210, 19 March 1981, approved by the Air Navigation Commission, 96th Sess., Minutes of the 20th Meeting, 30 March 1981, ICAO Doc. AN-Min. 96-20, 26 May 1981, at 103.

[254] Council, 103rd Sess., Minutes of the 3rd Meeting, 15 May 1981, ICAO Doc. 9347 C/1063, C-Min. 103/3, 1981, at 20 to 22.

of the Chicago Convention had to be filed with ICAO.[255] The Technical Instructions are thus not standards per se but their status stems from a standard in the Annex, paragraph 2.2.1.[256]

(5) Authority for Amendments

Having agreed that ICAO should be able to amend the Technical Instructions quickly,[257] the question remained under what authority this would be done. The Secretariat

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[255] ibid., Minutes of the 6th Meeting, 5 June 1981, ICAO Doc. C-Min. 103/6, at 40 and 41 para. 10.

[256] "The Annex represented what would be incorporated into States' legislation, with or without modification, which would cause the Instructions to become effective in those States." ibid., Minutes of the 18th Meeting, 29 June 1981, ICAO Doc. C-Min. 103/18, at 131 para. 6; the Technical Instructions, Edition 1989-1990, are divided into 8 Parts and 4 Attachments: Parts: 1- General, 2- Classification and List of Dangerous Goods, 3- Packing Instructions, 4- Shipper's Responsibilities, 5- Operator's Responsibilities, 6- Training, 7- Packaging Nomenclature, Marking, Requirements and Tests, 8- Classification Testing Methods and Procedures for Class 4 and Division 5.1; Attachments: 1- List of UN Numbers with Associated Proper Shipping Names, 2- Explanation of Terms Used in the Dangerous Goods List, 3- Notified Variations from Instructions, 4- Index and List of Tables and Figures.

[257] "ICAO should be able to issue emergency amendments to the Technical Manual, effective immediately upon receipt, subject to later ratifications by a constituted Dangerous Goods Panel of experts meeting at agreed intervals." Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, Comments of Canada, at B-2 para. 1.4.

stated that "as previously discussed in both the Commission and the Council, time will not be available to consult States in the normal manner prior to each amendment of the instructions and the necessary authority and responsibility for amendment will need to be conferred upon the Secretary General."[258]

France pointed out that it was desirable for States both to guard themselves against clerical or substantive errors by the Secretariat and to preserve their authority. It should be possible for a State to seek approval of the Technical Instructions by the Council at its request. Flexibility would remain and State's authority would be preserved within the Council. The Secretariat[259], the Air Navigation Commission[260] and the Council[261] endorsed this position.

The Council later adopted a procedure for processing urgent amendments to the Technical Instructions in cases where an error or omission in the Instructions would likely

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[258] ibid. at B-18 para. 1.20 c).

[259] ibid., ADD. No. 2, 17 September 1979, at 1 and 2.

[260] Council, 103rd Sess., **1707th Report to the Council by the President of the Air Navigation Commission, Adoption of Annex 18 - The Safe Transport of Dangerous Goods by Air,** ICAO Doc. C-WP/7261, 31 March 1981, at 6.

[261] Council, 103rd Sess., Minutes of the 18th Meeting, 29 June 1981, ICAO Doc. 9347 C/1063, C-Min. 103/18, 1981, at 113.

compromise safety. It allowed the Presidents of the Air Navigation Commission and of the Council to convene a meeting of their respective bodies or, if this was not possible, to act under delegated authority and inform later their respective bodies. The Secretariat would send the approved amendment to States, IATA, IFALPA and the main distributor of the Technical Instructions for transmission by telex or facsimile to all registered purchasers of the Instructions and for inclusion in all unsold copies.[262]

The Council considered it important to mention in paragraph 2.2.1 that the detailed provisions of the Technical Instructions were "approved, issued and amended in accordance with the procedure established by the ICAO Council". The fact that it was mentioned that they were published under the authority of the Council would "stress their binding character on States",[263] considering that most of the ICAO publications were issued under the authority of the Secretary General.

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[262] Council, 116th Sess., **1871st Report to Council by the President of the Air Navigation Commission, Procedure for Processing Urgent Amendments to the Technical Instructions**, ICAO Doc. C-WP/8073, 30 September 1985, Revised, 2 December 1985, at 3 para. 4; Minutes of the 27th Meeting, 18 December 1985, ICAO Doc. 9479-C/1091, C-Min. 116/27, 1985, at 238.

[263] Council, 103rd Sess., Minutes of the 3rd Meeting, 15 May 1981, ICAO Doc. 9347-C/1063, C-Min. 103/3, 1981, at 20 para. 3.

The Council agreed to the special procedure for the approval of each new edition of the Technical Instructions, taking into account the necessity for a quicker amendment procedure than the one set for the Annexes[264] and the power of the President of the Council to accept the modification under delegated authority.

Acting under delegated authority, the President of the Council had approved the changes recommended by the Sixth Panel Meeting as modified by the Air Navigation Commission.[265] He told the Council that since amendments to definitions in the Technical Instructions which were also present in the Annex had been introduced, he would have to

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[264] ibid. at 133. "... The DGP meeting should produce a formal summary report to the Air Navigation Commission consisting principally of a recommendation for issuance of the revised edition of the Technical Instructions and, as appropriate, high-lighting contentious issues. The summary report should be used as the basis on which the Air Navigation Commission or its President, acting on delegated authority, could recommend that the Council approve the revised edition of the Technical Instructions. In view of the short period of time that would be available for the processing of the amendments to the Technical Instructions between the completion of the DGP meeting and commencement of the actual publication process, it will be necessary that the... approval process be completed within a short period following the meeting..." Council, 103rd Sess., 1707th **Report to the Council by the President of the Air Navigation Commission, Adoption of Annex 18 - The Safe Transport of Dangerous Goods by Air**, ICAO Doc. C-WP/7261, 31 March 1981, at 6 para. 5.3.

[265] Council, 106th Sess., **Reports of the President of the Council**, ICAO Doc. C-WP/7460, 14 May 1982.

defer these changes until proper amendments would be made to the Annex.[266]

Some representatives to the Council expressed concern about amendments to the Technical Instructions which could come in conflict with provisions of the Annex. Since States would have difficulties in implementing either one of the documents. The Council approved the changes, on the understanding that "no amendment would be made to the Technical Instructions with respect to such instructions which reproduced the provisions of Annex 18."[267]

Even with all the ICAO work in the field, the Regulations and the field manual used by the industry in day-to-day operations are still the IATA Dangerous Goods Regulations.

(6) The IATA Dangerous Goods Regulations

Historically, the standards for the carriage of dangerous goods were set by the industry. In the late 1800's railway carriers initiated efforts for the safety of dangerous goods carried. Under the American Transportation of Explosives Act of 1909,[268] the Interstate Commerce

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[266] President's Memorandum to Council Representatives dated 13 May 1982.

[267] Council, 106th Sess., Minutes of the 4th Meeting, 31 May 1982, ICAO Doc. 9372 C/1069, C-Min. 106/4, 1982, at 23.

[268] Act Mar. 4, 1909, ch. 321, 233, 35 Stat. 1135.

Commission had delegated significant regulatory authority to the Bureau of Explosives of the Association of American Railroads. When the ICAO Council was looking at the British proposals of 1948 for Article 35(b), a representative to the Council called for a close collaboration with IATA, "which would have considerably more knowledge of the subject than ICAO."[269]

At the 1952 IATA Restricted Articles Working Group meeting, the ICAO observer advised the Group that:

> "the ICAO AN Commission had decided that the action to be taken by ICAO should be governed by Article 35 of the Chicago Convention and would be limited to the drafting of broad and general provisions which would replace the present Article 3.5 of ICAO Annex 6 and provide a basis for the use of detailed specifications such as the IATA Regulations, possibly by direct reference... ICAO would be prepared to advocate acceptance by Contracting States of the IATA Regulations once the IATA house was in order, and that the AN Commission might well be prepared to also suggest possible amendment to FAL Annex 9 with a view to streamlining international procedures which affect the carriage of shipments of this type."[270]

A 1974 IATA Board Report mentioned that "originally ICAO had delegated the development of industry rules and

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[269] Council, 6th Sess., Minutes of the 18th Meeting, 28 March 1949, ICAO Doc. 6767-C/783, 18 May 1949, at 13 para. 58.

[270] Report of the Restricted Articles Working Group, Copenhagen, May, 1952, at 14 para. M/58.

regulations pertaining to the acceptance and carriage of restricted articles by air to IATA."[271]

(a) The Restricted Articles Working Group

The Restricted Articles Working Group[272] was established in 1950 to make the carriage by air of "dangerous" goods possible as many countries were opposed to this idea.[273] It formulated the first draft of the IATA "Regulations Relating to the Carriage of Restricted Articles", based on the U.S. governmental regulations,[274] which was accepted by the Traffic Conferences held at Madrid in May 1950. It incorporated the Regulations by reference

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[271] **Report Twenty-First Meeting IATA Restricted Articles Board Geneva, 9th-17th September, 1974,** at 41 para. M/168.

[272] It was called "Permanent Working Group on Restricted Articles" in 1953, "Restricted Articles Board" in 1969, and "Dangerous Goods Board" in 1983; therefore, in the text, the expression "Working Group" and "Board" refer to the same body but in different periods of time.

[273] Their objectives in the drawing up of the aviation code were: i) to make it possible to carry, subject to the paramount needs of safety, as much useful cargo as possible; ii) to take more clearly into account the characteristics peculiar to air transportation.

[274] In 1957, the Working Group and Air Cargo, Inc. representatives "unanimously concluded that the U.S. requirements were basically covered in the IATA Regulations." **Report of the Fifth Meeting IATA Permanent Working Group on Restricted Articles Miami, May 27th-June 7th, 1957,** at 33 para. M/144.

into Article 5 (Acceptability of Goods for Carriage) of the IATA Conditions of Carriage for Goods (Recommended Practice 1550).

While many member airlines said they would adopt them, some advised their Governments felt "certain deficiencies in the draft Regulations must be put right before they could implement them."[275]

In his circular of 17 July 1950, the Director General of IATA asked member airlines for comments on the draft. The following Working Group meeting suggested, inter alia, that a Permanent Working Group of technical experts be established to consider future additions and changes to the Alphabetical List of Articles based on the U.S. Interstate Commerce Commission Regulations.[276]

The Working Group "recorded the opinion" that the Director General should ask the members to submit the Regulations to their respective governments "with the request that they, as well as all other IATA Members, be

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[275] Circular of the Director General to all Members, Carriage of Restricted Articles, IATA Ref. 5717 (5/220), 25 November 1952.

[276] Report of the Restricted Articles Working Group, Copenhagen, May, 1952, at 12 para. M/51.

permitted to operate under the Regulations rather than endeavouring to have the full national law modified."[277]

The 17th Meeting of the Traffic Committee (Cannes, October 1952) approved the new Regulations as modified.

The first meeting of the "Permanent Working Group on Restricted Articles" was held in Miami in 1953. It discussed the desirability of compatibility of air and surface transport regulations. It was decided that the regulations did not have to be identical, the air regulations being more restrictive than the surface ones and that identical regulations would not be a guarantee that the shipper would comply with them. Shippers engaged in international commerce should be ready to accept additional problems "which are a natural concomitant of the international carriage of goods."[278] As to the suggestion of using performance standards for outer and inner packing,

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[277] ibid. at 13 para. M/55. The Director General wrote to the Members: "It is appreciated that in many cases Governmental concurrence in acceptance of the revised Regulations will be required. Where this is necessary, Members are asked to submit the revised Regulations to their Governments as soon as possible with the request that they, as well as all other IATA carriers, should be permitted to operate under these Regulations... it is desirable that carriers have such dispensations granted without having to await complete re-enactment of national legislation before the IATA Regulations can be used..." Circular, **Carriage of Restricted Articles**, Ref. 5717 (5/220), 25 November 1952.

[278] **Report of the First Meeting of the Permanent Working Group on Restricted Articles Miami, September, 1953,** at 1 para. M/4.

the Group felt that it was premature for the industry to set arbitrary standards at the present time, in absence of adequate national performance tests of this nature.[279]

The Regulations became effective on 1 January 1956, and binding upon the member airlines by Resolution 618. When the ICAO Panel of Experts held its first meeting, Resolution 618 was binding upon 110 IATA members. Ninety non IATA carriers applied them and 54 Governments had adopted them as part of their governing national legislation.[280]

i) Shipper's Responsibility

a) Shipper's Certification

From the beginning, the Regulations placed the responsibility to certify that the consignment complied with the Regulations on the shipper. The carrier would not accept articles as acceptable for carriage by air "unless the shipper or his authorized agent has certified that the

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[279] ibid. at 3 para. M/7.

[280] Dangerous Goods Panel, 1st Meeting, Development of Supporting Technical Material, ICAO Doc. DGP/1-WP/4, 13 January 1977.

consignment complies with the regulations."[281] The carrier might also require to have the statement certified by an authority approved by the carrier.

The Introduction to the Regulations stated that there were some requirements for determining whether a particular article would be acceptable for carriage by air. Consignments which did not meet all of these requirements, such as the shipper's certification, would not be accepted.

Shippers were warned "that the offering of articles in violation of these Regulations may be a breach of the applicable law, subject to legal penalties", since "[t]hese Regulations are approved by the appropriate governmental Authorities and incorporated in the National Regulations of many countries."[282]

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[281] **IATA Regulations to the Carriage of Restricted Articles (Amended Version), Report of Restricted Articles Working Group Copenhagen, May, 1952,** Appendix "A" at 11.

[282] **Report of Eighth Meeting IATA Permanent Working Group on Restricted Articles Miami, May 28th - June 8th, 1960,** Part II at 33 para. M/1. "For reasons of clarification", the text was replaced by the following: "All restricted articles referred to herein as acceptable for transportation by air, must be declared under the proper shipping name (abbreviations not permitted) and show any instructions that are necessary for safe handling, and must be packed, marked and labelled in accordance with these Regulations, and to all applicable carrier and governmental regulations. It is, therefore, the responsibility of the shipper or his authorized agent to comply with the specific provisions of the Regulations, and failure to do so may be a breach of the applicable law, subject to legal penalties." **Report of Fourteenth Meeting Geneva, 12th-16th June, 1967,** at 2; Section 1 para. 2.1.1 of the Eleventh Edition (1967) of the IATA Regulations.

The responsibility rested upon the shipper. The carrier was not required to verify the veracity of the shipper's declaration, the solidity of the package, etc.

The Board "recorded its strong opposition to the principle that the carrier has also to assume responsibility for any misdeclaration or non-compliance with the specific provisions of the IATA Restricted Articles Regulations by the shipper, over whom the carrier has no direct control except to require a signed Shipper's Certification for restricted articles."[283] Of course, as far as "safety" was concerned, the carrier had a responsibility to externally inspect packages to ensure that they were fit for carriage.[284]

Due to various difficulties encountered with respect to the shipper's certification, mainly with respect to the "considerable non-compliance" with its requirement, the Working Group introduced the idea of a standard format for the shipper's certification, in a separate document or

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[283] Report Seventeenth Meeting IATA Restricted Articles Board Geneva, 21st-25th September, 1970, at 39 para. M/138.

[284] Report Twenty-Seventh Meeting IATA Restricted Articles Board Geneva, 26th-27th September and 7th-11th November, 1977, at 14 para. M/34.

incorporated in such other document as the carrier might deem appropriate.[285]

On the proposed certificate, the shipper's responsibility is reaffirmed. It noted that "where the shipper states the article does not fall within the scope of these Regulations, the carrier may, in case of doubt on its part, require the shipper so to certify".[286]

Often, the IATA Cargo Sales Agent signs the Certificate on behalf of the shipper, though he is not technically qualified to say whether the shipment meets the requirements or not. The Group "felt that it was largely the responsibility of the individual carrier to determine whether the IATA Cargo Sales Agent was authorized by the shipper to sign the certification on his behalf".[287] It later expressed the opinion that it was of utmost importance that the shipper himself signed the Certification, because of the legal implications, testifying

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[285] Report of Sixth Meeting IATA Permanent Working Group on Restricted Articles Namur (Belgium), May 5th-13th, 1958, at 2 para. M/5 and M/6.

[286] ibid. at 36 Attachment "A".

[287] Report of Eighth Meeting IATA Permanent Working Group on Restricted Articles Miami, May 28th - June 8th, 1960, Part I at 2 para. M/8 and M/9.

to compliance with all IATA's, the carrier's and governmental regulations.[288]

The 1967 Composite Cargo Conference (San Juan) proposed that only the shipper or manufacturer should be permitted to sign the Shipper's Certification. The Working Group added to the Regulations that "[f]or the purpose of these Regulations, an authorized agent is a person expressly authorized by his principal to execute the Shipper's Certification for restricted articles required by this paragraph."[289]

Following a number of incidents involving consignments not complying with the Regulations but for which the IATA Cargo Agent or forwarder had executed the Certification, the Board added the words "except that this [person] shall not include IATA Cargo Agents, consolidators, forwarders and indirect carriers".[290]

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[288] **Report of Twelfth Meeting IATA Permanent Working Group on Restricted Articles New York, 13th-17th April, 1964,** at 2 para. M/8. For a Secretariat member, "it frequently becomes evident that many people involved in shipping restricted articles by air do not know, in fact, who the shipper is, in the broad sense." **Report Twentieth Meeting Montreal, 17th-21st September, 1973,** at 37 para. M/154.

[289] **Report of Fourteenth Meeting IATA Permanent Working Group on Restricted Articles Geneva, 12th-16th June, 1967,** at 2 and 3 para. M/6 and M/7; Eleventh Edition (1967) of the Regulations, Section 1 para. 2.1.2.

[290] **Report Seventeenth Meeting IATA Restricted Articles Board Geneva, 21st-25th September, 1970,** at 2 para. M/7; Fourteenth Edition (1971) of the Regulations, Section 1 para. 2.1.2.

In 1974, the Board reviewed the situation for, even with this prohibition, in actual practice, consolidators and forwarders continued to issue and sign the Shipper's Certification "in their capacity as "shippers"". It amended the provision to put more teeth into existing regulations, stressing that it was the responsibility of the shipper to provide the air carrier with the Certification.[291]

b) Shipper's Marking

With certain governmental regulations requiring that the outside container of restricted articles should bear the proper shipping name of the article, the Working Group's position was that "the onus of compliance with governmental requirements should rest solely with the shipper and in no circumstances with the carrier".[292] The Group added to the paragraph on "How to use these Regulations - General Procedure" that "[c]ertain countries require the shipper to

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[291] **Report Twenty-First Meeting IATA Restricted Articles Board Geneva, 9th-17th September, 1974,** at 9; Eighteenth Edition (1975) of the Regulations, Section 1 para. 21: "... The Shipper must complete and sign the Shipper's Certification for restricted articles as shown on the next page, in duplicate for each consignment. In no circumstances shall an IATA Cargo Agent, consolidator or a forwarder complete or sign the Shipper's Certification for restricted articles."

[292] **Report of Fourteenth Meeting IATA Permanent Working Group on Restricted Articles Geneva, 12th-16th June, 1967,** at 2.

mark the outside container with the proper shipping name."[293]

(b) The IATA Regulations and the U.S.A.

There have been differences between the U.S. and the IATA Regulations, with shippers having to apply two sets of regulations depending on the destination. For the Working Group, such deviations were necessary since other Governments regulated articles which the U.S. Interstate Commerce Commission did not. Articles were sometimes required to be declared by certain specific shipping names which differed from country to country.[294] The goal was still to achieve a greater uniformity between the IATA Regulations and the Air Transport Conference Restricted Articles Tariff for U.S. domestic traffic. One of the consequences of these differences was an increasing tendency on the part of U.S. domestic carriers to exempt themselves from the IATA Regulations, without any technical reasons.[295]

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[293] Section 1 paragraph 1.1 in fine of the Eleventh Edition (1967) of the Regulations.

[294] **Report of the Ninth Meeting IATA Permanent Working Group on Restricted Articles Paris, April 27th - May 3rd, 1961, Part I at 22 and 23.**

[295] **Report of Tenth Meeting IATA Permanent Working Group on Restricted Articles Paris, April 30th - May 4th, 1962, at 35 para. M/96.**

Meetings were held with the U.S. Federal Aviation Agency, in order to avoid that the packages complying with the IATA Regulations had to be repackaged at the port of entry in the U.S. before proceeding to their final destination. While the U.S. regulations remained compatible with regulations governing all other means of transport in the United States, it was important to facilitate the international carriage of restricted articles between countries. The U.S. remained reluctant to adopt a set of regulations made by only one participant in the process of transportation.

The IATA Restricted Articles Board had the difficult task of ensuring compatibility between the U.S. Regulations and all other government regulations, in order to ensure the acceptability of the IATA Regulations to all interested Governments. For example, some Governments pressured the Board "considerably" to adopt the U.N. Recommendations in detail. However, IATA was unable to do so in order to reflect, as a minimum, the U.S. Regulations.[296] There was also the pace of amendments to the U.S. Regulations. The Board was not able to maintain compatibility with other governing regulations, with respect to the effective date of

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[296] **Report Seventeenth Meeting IATA Restricted Articles Board Geneva, 21st-25th September, 1970, at 33 para. M/111.**

the changes.[297] Some U.S. requirements were almost impossible to be complied with outside the U.S., like the one requiring the use of California wood as a raw material for the packaging.[298]

(c) Implementation

Due to the difficulties resulting from non-compliance by shippers, IATA Cargo Agents and forwarders, in 1972 the IATA Technical Committee adopted six recommendations. It requested the IATA Public Relations Director to take all necessary steps to disseminate full information, that the Board develop suitable training materials, that Member airlines report accidents and incidents and that the Board develop a standard reporting form, etc.[299]

The Board developed target areas to improve implementation: "legislative" (ICAO, Governments and Universal Postal Union), "internal industry" and "external".[300] Discussions were held with ICAO following

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[297] **Report Twentieth Meeting IATA Restricted Articles Board Montreal, 17th-21st September, 1973**, at 35 para. M/147.

[298] **Report Twenty-Third Meeting IATA Restricted Articles Board Cologne, 22nd-27th September, 1975**, at 32 para. M/130.

[299] **Report Nineteenth Meeting IATA Restricted Articles Board Geneva, 18th-26th September, 1972**, at 67 and 68.

[300] **Report Twenty-First Meeting IATA Restricted Articles Board Geneva, 9th-17th September, 1974**, at 43.

the 1974 Accident Investigation Group Meeting and for the Board, "it was essential to have the support of ICAO and Governments in order to deal with this complex matter, in particular the compliance aspects, in a constructive manner."[301]

In order to improve implementation, in 1975 IATA held an International Conference on Transportation of Hazardous Materials, attended by Member airlines, Governments and international organizations such as ICAO. The Conference adopted some recommendations, one of which invited ICAO to adopt an Annex based on the IATA Regulations:

> "The International Civil Aviation Organization (ICAO) is urged to take appropriate action to ensure that basic requirements relating to the acceptance and safe carriage of dangerous goods by air based on the current Edition of the IATA Restricted Articles, be included in an Annex to the Chicago Convention."[302]

IATA was seeking the cooperation of ICAO and Governments to establish a basic legal framework for the enforcement of the Regulations and the introduction of severe penalties in the event of non-compliance.[303] At the

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[301] ibid. at 54 para. M/223.

[302] Recommendation No. 3. **Report Twenty-Second Meeting IATA Restricted Articles Board Geneva, 24th-28th February, 1975**, at 49.

[303] **Report Twenty-Fourth Meeting IATA Restricted Articles Board Geneva, 30th March - 2nd April, 1976**, at 32; "there is a need to have effective standards, as part of an ICAO Annex, which set forth the general principles relating to the acceptance and carriage of hazardous materials by

ICAO Dangerous Goods Panel First Meeting of January 1977, the IATA representative proudly stated that it was "significant to note that no single incident involving the carriage of dangerous goods has ever occurred, which was caused by any fault, omission or discrepancy within the IATA Restricted Articles Regulations."[304]

Nonetheless, with ICAO starting to develop an outline of specifications, the Cargo Traffic Procedures Committee unanimously agreed that it was essential to keep the IATA Regulations, to maintain the current machinery for changes, to "continue to maintain close contact with manufacturers and shippers" to amend and up-date the IATA Regulations "which should be a fully self-contained document for use by manufacturers, shippers, cargo agents, forwarders and airline handling staff", and to demand that the provisions adopted by ICAO and its Member States should not be less restrictive than the IATA Regulations.[305]

The IATA Regulations would be made fully compatible with the U.N. Recommendations and the ICAO Annex and

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air. In this context, it is strongly felt that special emphasis should be given to the question of compliance." **Report 8th Meeting Cargo Traffic Procedures Committee Geneva, 23rd-27th February, 1976**, at 19.

[304] ICAO Doc. DGP/1-WP/4, 13/1/77, at 1 para. 2.

[305] **Report 8th Meeting Cargo Traffic Procedures Committee Geneva, 23rd-27th February, 1976**, at 18 and 19.

Technical Instructions.[306] Matters concerning the industry would be covered by the IATA Regulations even if they were not covered by the ICAO Technical Instructions, and, vice versa, matters which did not affect the industry but were included in the Technical Instructions would be excluded from the IATA Regulations.[307]

In 1980, the Board adopted (for the 24th (1982) Edition of the Regulations) a proposal to make the Regulations Commodity List conform to the ICAO list.[308] In 1981, it was agreed to "make the 24th Edition fully compatible with the 1st Edition of the ICAO Technical Instructions to be published September 1981".[309] The 24th Edition of the Regulations, effective on 31 December 1982, were in fact compatible with the 2nd Edition of the Instructions.[310] They were called "Dangerous Goods

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[306] Minutes 2nd Meeting Cargo Services Conference Montreal, 14th-16th March, 1980, at 22.

[307] Minutes 32nd Restricted Articles Board Meeting Geneva, 17th-21st March, 1980, at 3 para. 10.

[308] Report 33rd Restricted Articles Board Meeting Cologne, 10th-14th November, 1980, at 5 para. 20.

[309] Minutes 34th Restricted Articles Board Meeting Montreal, March 2-6, 1981, at 4 para. 16.

[310] The 30th Edition (1989) of the Dangerous Goods Regulations is divided in 10 sections:
1- Applicability; 2- General Information; 3- Classification of Dangerous Goods; 4- Dangerous Goods List; 5- Packing Instructions; 6- Packaging Specifications and Performance Tests; 7- Marking and Labelling; 8- Documentation; 9- Handling; 10- Classification Tests for

Regulations", and the Board changed its name to the "Dangerous Goods Board".[311]

(d) The IATA Regulations as the Real Field Manual

The Board considered it imperative that IATA maintain control over its field document and therefore "welcomed the idea of one field document in the long term and considered ICAO should concentrate on the legal aspect whereas IATA should concentrate on the field aspect and how

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Class 4 and Division 5.1.

Paragraph 1.2 on "Application of These Regulations" says:

1.2.1 ICAO Annex 18 and the Technical Instructions are applicable for the transport of dangerous goods from, to or through the Member States of ICAO.

1.2.2 In accordance with IATA Cargo Services Resolution 618, the IATA Dangerous Goods Regulations are applicable to all Member airlines of the International Air Transport Association and to the airlines which are parties to the IATA Interline Agreement - Cargo.

1.2.3 When shippers offer dangerous goods to the airlines described in 1.2.2, they must comply with these Regulations in their entity as well as any applicable regulations of the States of origin, transit and destination.

1.2.4 Shippers are warned that the offering of articles and/or substances in violation of these Regulations may be in breach of the law and that the shipper may be subject to legal penalties...

[311] **Minutes 36th Restricted Articles Board Meeting Montreal, July 20-24, 1981, at 14.**

to apply practically and adequately all the legal requirements."[312]

In the actual IATA Resolution 618, the ICAO Technical Instructions were to be complied with "as reflected in the "IATA Dangerous Goods Regulations"".[313]

The IATA manual is still considered to be more practical than the ICAO Technical Instructions. The problem for ICAO is that the IATA manual is the field manual. The shipper who wants to send a package will have to use the IATA manual in order that his package is accepted by the carrier.

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[312] Minutes 48th Dangerous Goods Board Meeting Tokyo, 10-14 November 1986, at 2 para. 8.

[313] CSC1(06)618 CSC2(06)618 CSC3(06)618 Type: B IATA Dangerous Goods Regulations:

RESOLVED that,

(1) In scheduled and/or unscheduled operations, no dangerous goods shall be accepted and carried unless they comply fully with the international standards and recommended practices of Annex 18 to the Convention on International Civil Aviation - "The Safe Transport of Dangerous Goods by Air" and its associated Technical Instructions as reflected in the "IATA Dangerous Goods Regulations" as set forth in ATTACHMENT "A"(*). In cases of extreme urgency, when other forms of transport are inappropriate, or full compliance with the prescribed requirements is contrary to the public interest, the States concerned(**) may grant exemptions from these requirements; provided that in such cases every effort shall be made to achieve an overall level of safety in transport which is equivalent to the level of safety provided by the applicable Regulations.

(*) ATTACHMENT "A" published separately.

(**) The States Concerned are the States of origin, transit, overflight and destination of the consignment and the State(s) of the operator.

There are still "tremendous" differences between the IATA Regulations and the ICAO Technical Instructions. The IATA Regulations are more restrictive. For example, for some substances permitted by the ICAO Instructions, the IATA Regulations require the exemption procedures of Paragraph 2.1 of the Annex, and approval of all States concerned. For the Panel Member who reported this case, it was obvious that "it is only States, through ICAO, who may decide which dangerous goods require the full exemption procedure."[314]

With the existence of two manuals, many expressed the hope that ICAO and IATA would reach an agreement over the manuals. At ICAO, several Council members questionned the fact that IATA was selling at a profit a field document which reproduced the Technical Instructions over which ICAO had the copyright.

i) The 1989 Letter of Understanding

After several years of discussions, the Secretary General of ICAO signed a letter of understanding with IATA

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[314] They are substances suspected to possess packing group I inhalation toxicity which some being permitted under the ICAO Instructions. Dangerous Goods Panel, Working Group Meeting, **Review of Annex 18 Airline Operator Variations**, ICAO Doc. WG87-WP/18, 16 February 1987, at 1.

on 14 February 1989,[315] to recognize and clarify the role of each organization in the publication and dissemination of the regulatory material on the carriage of dangerous goods by air for a period of 10 years.

On the basis of the Letter of Understanding, ICAO will produce the Technical Instructions as the only authoritative and authentic legal source for use by States and undertake not to grant the right to reproduce the Technical Instructions as a field document to commercial third parties. IATA will distribute this field document worldwide, in return for which ICAO will receive part of the financial benefits therefrom. IATA will continue to produce its Regulations with full control over content, presentation, marketing and distribution and will acknowledge that the ICAO Technical Instructions arising from Annex 18 were the "authentic legal source material".

The Foreword of the ICAO Technical Instructions will indicate that the field document, for the practical reference of the industry, and known as the IATA Dangerous Goods Regulations, based on Annex 18 and the Technical Instructions, was published in consultation with ICAO. The Foreword will also explain where the IATA Regulations are available.

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[315] IATA/ICAO Agreement on Carriage of Dangerous Goods by Air, IATA News No. 6, 21 February 1989.

It is possible that ICAO's endorsement of the IATA Regulations create some problems. From the start, even if it had been claimed that IATA Regulations were in "conformity" with the ICAO Technical Instructions, the IATA Regulations had added extra provisions to "include some additional restrictions which IATA chooses to impose but has been unable to convince the ICAO Panel are necessary (although there is no indication that they are IATA's own restrictions)."[316]

In the past, many ICAO Member States refused to enact the IATA Regulations because they were industry regulations. The U.S. Government declined to do so, because the Regulations were only made by one participant in the process of carrying a hazardous material, the carrier. Moreover, in many countries, governments were being sued with respect to governmental decisions concerning public health and safety. It was seen as problematic for States accept to implement the Technical Instructions and endorse an industry document or regulations over which they have no control.

In the Letter of Understanding, ICAO agrees not to add any names to the list of addressees to receive the ICAO

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316 J. L. Cox, "No Place Forever" Hazardous Cargo Bulletin (September 1988) 34 at 35.

Technical Instructions. New member States of ICAO will not be allowed to receive their copies of the Instructions.

While ICAO is an organization of governments, representing populations as a whole, IATA is an association of carriers representing their interests. ICAO should set its Technical Instructions as a real field document. ICAO should include a sample of a shipper's document, which is an important feature of the IATA Regulations.

The Secretary General of ICAO believed ICAO might exceed its mandate if it was getting into commercial activities such as the worldwide marketing of a publication.

b. States Variations[317]

The First Panel Meeting suggested that when States adopt more stringent regulations than those within the Technical Instructions, they shall notify ICAO. At IATA's suggestion at the Second Meeting, more stringent was deleted, leaving the States to notify any variations from

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[317] "Alas, some governments, and many airlines, have decided to impose their own individual rules and restrictions. Occasionally, these may be necessary to respond to local conditions or difficulties. But, in general, these "variations" to the internationally agreed regulations have very flimsy foundations." J. Cox, "What now for the TIs?" Hazardous Cargo Bulletin (February 1987) 12 at 13.

the Instructions.[318] This is more in accordance with the practice set by Article 38 of the Chicago Convention, which obliges States to notify differences between their own practices and those established by the international standard. Nonetheless, the matter was much disputed.

There was a lengthy discussion within the Council. Many participants stressed that the Technical Instructions should be regarded as a minimum, or that a country adopting less stringent provisions should not be allowed to ship the goods outside that country. Others pointed out that judging whether the regulations were more or less stringent would be a subjective matter. Furthermore, it would be the first time that such a distinction was made. In addition, countries like the U.S.A. had, in fact, less stringent regulations.[319]

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[318] Dangerous Goods Panel, 2nd Meeting, **Review of Draft SARPS Developed at DGP/1 to Ensure Consistency between SARPS and Dangerous Goods Supplementary Technical Document**, ICAO Doc. DGP/2-WP/6, 4 May 1977, at 5; 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 2-9 paragraph 2.5. IATA suggested the opposite in 1979: "If the standard is necessary, it should be reworded to provide for minor deviations from the instructions only, and even these should be subject to the condition that any exception shall no less restrictive that the ICAO instructions." Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-53.

[319] Council, 103rd Sess., Minutes of the 3rd Meeting, 15 May 1981, ICAO Doc. 9347-C/1063, C-Min. 103/3, at 22 to 23; of the 4th Meeting, 20 May 1981, C-Min. 103/4, at 28 to 29;

In order for the Technical Instructions to be improved as a field document, ICAO wrote States to ask them to verify the States variations they had sent to a non-ICAO publication, the "Air Cargo Tariff", known as the "TACT Rules", published in the Netherlands, used by shippers and airlines. This publication included information on the transport of dangerous goods by air and some items listed did not correspond with the variations to the Technical Instructions reported by States to ICAO.[320]

Under Article 38 of the Chicago Convention, SARPs do not become effective if the majority of States have filed a difference. The trend being toward the reduction of the SARPs of Annex 18 for the benefit of the Technical Instructions, the "requirements" would become effective when adopted by the Council and States are left with the power to file variations to those requirements. One could make a comparison with the situation which prevailed with the Paris Convention of 1919, where the States had agreed that the SARPs in force would be the ones set by the International Commission for Air Navigation.

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of the 6th Meeting, 5 June 1981, C-Min. 103/6, at 39 to 41. Paragraph 2.5: "Where a Contracting State adopts different provisions from those specified in the Technical Instructions, it shall notify ICAO promptly of such State variations for publication in the Technical Instructions."

[320] State Letter AN 11/27.1.2 - 84/48 dated 12 July 1984, at para. 5.

c. Carriers Differences

Until the 1989 Amendment of Annex 18, a Note at the beginning of Chapter 8 stated that it does not oblige an operator to carry dangerous goods or prevents him from imposing special requirements. Annex 18 did not provide for a carrier's variation, unlike in the IATA Regulations. Many countries suggested that ICAO publish such a list, which would be useful for shippers.[321]

At the end of the nineteen seventies, the ICAO Secretariat advised that it would not be practicable to include carriers' variations for two reasons: "a) ICAO publications do not normally make reference to the practices of individual airlines; and b) ICAO normally uses data provided by States and some States would be reluctant to accept the task of collecting such information from all their airlines."[322]

Nonetheless, in order for the Technical Instructions to be a field document, the Secretariat concluded that there

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[321] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-52 to B-54.

[322] Dangerous Goods Panel, 8th Meeting, **Variations to the Technical Instructions**, ICAO Doc. DGP/8-WP/75, 24 January 1981, at 1.

would be no absolute barrier to an ICAO document referring to airlines requirements, as well as data collected directly from the airlines.

To "allay any fears" that these variations might be taken as having a regulatory nature if they appeared in the Instructions themselves, it was suggested to separate the variations from the regulatory part of the Technical Instructions.[323]

ICAO first suggested to include them in the State variations, but they are now published in Attachment 3 to the Technical Instructions, Chapter 2, which states that "operator variations must not be less restrictive than the requirements of the Instructions and should refer only to safety matters and not to special handling or processing requirements" (at para. 2.2).

The fact that the IATA Dangerous Goods Regulations contain the IATA Member airlines requirements makes them a must when a shipper wants to send a package of dangerous goods. Another point is that are "a tremendous number of differences between the IATA Dangerous Goods Regulations and the ICAO Technical Instructions (most of them being of a more restrictive nature in IATA)",[324] so the shipper will

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[323] ibid. at 2.

[324] Dangerous Goods Panel, Working Group Meeting, Review of Annex 18 Airline Operator Variations, ICAO Doc. WG87-WP/18, 16 February 1987, at 1.

have to consult the IATA Regulations to know if the operator will accept his shipment. On the other hand, the IATA Regulations do not contain all the carriers' reservations, since not all airlines are members of IATA. The IATA Dangerous Goods Board "considered there was no need to file IATA airline variations with ICAO since they were already in the DGR which is the IATA airline field document."[325]

Nonetheless, for a Panel Member, some operator variations "are totally inconsistent or irrelevant and prove that the operators concerned have not understood (or have not read) the ICAO Technical Instructions... In the future, the Secretariat should refuse to publish operator variations which are inconsistent or irrelevant,"[326] for example, a

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[325] **Minutes 48th Dangerous Goods Board Meeting Tokyo 10-14 November 1986**, at 2 para. 9.

[326] Dangerous Goods Panel, 10th Meeting, **Inconsistencies of Operator Variations**, ICAO Doc. DGP/10-WP/14, 10 December 1985. This is an old problem, since the IATA Working Group wrote in 1960: "It was the unanimous opinion of the Group that many of these exceptions are entirely impractical, unclear or illogical and, if continued, would greatly nullify the usefulness of the IATA Regulations on a world-wide level, and as such would have a severe crippling effect on international standardization." The Working Group decided that the following exception should not be publish in the IATA Regulations: (i) any exception which is impractical to administer; (ii) any exception which is of no direct interest to the shipping public, such as those pertaining to handling and loading requirements on aircraft; (iii) any exception which may prejudice the acceptance of the IATA Regulations by airlines and/or Governments, unless supported with practical or technical reasons; (iv) any exception which is a direct deviation from common shipping and trade practices; (v) any exception by the national carrier(s) which is a duplication of a Governmental exception. **Report**

variation on the special provisions in regard to the carriage of explosives while no explosives are covered by those special provisions. The Secretariat did not adopt this proposition since these variations are still in the Instructions.

Following the Air Navigation Commission's suggestion with a view to making the Instructions a better field document, the Council in Amendment No. 4 of 1989 adopted the recommendation for the notification of the operators variations,[327] in light of the deletion of the Note in Chapter 8. The Panel suggested that Chapter 2 was a more appropriate place to put that Recommendation.

7. Surface Transport

When a country proposed allowing road carriage of dangerous goods to and from an airport which complies with the ICAO Instructions, the first reaction of the Secretariat was to say that road carriage was not in ICAO's purview.

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of Eighth Meeting IATA Permanent Working Group on Restricted Articles Miami, May 28th - June 8th, 1960, Part I at 19 para. M/111 and M/113.

[327] "2.5.2 **Recommendation.-** The State of the Operator should take the necessary measures to ensure that when an operator adopts more restrictive requirements than those specified in the Technical Instructions, the notification of such operator variations is made to ICAO for publication in the Technical Instructions."

But since goods via air carriage move to and from airports by road, and sometimes between airports by road, the Panel decided to introduce a new provision in the Annex, suggesting States allow transport by road to and from airports of shipments meeting the ICAO regulations. One Panel Member found it more appropriate to approach the relevant bodies concerned.[328]

The Air Navigation Commission submitted the proposition to States for comments.[329] The majority of the Air Navigation Commissioners found the proposal acceptable, while one Commissioner had reservations with respect to including a provision concerning transport by road in an ICAO annex. The Commission agreed to recommend to the Council a new Paragraph 2.6 as a Recommended Practice on surface transport.[330] The Council adopted it in Amendment 2 to the Annex 18 on 1 June 1983.[331]

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[328] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 2-2 para. 2.3.2.

[329] Comments in Air Navigation Commission, **Comments by States and International Organizations**, ICAO Doc. AN-WP/5373, 9 June 1982.

[330] Air Navigation Commission, 101st Sess., Minutes of the 4th Meeting, 28 September 1982, ICAO Doc. AN Min. 101-4, 12 October 1982, at 17.

[331] Council, 109th Sess., Minutes of the 5th Meeting, 1 June 1983, ICAO Doc. 9406 C/1075, C-Min. 109/5, 1983, at 30.

E. Chapter 3. Classification

The First Panel Meeting adopted the classification of the UN Committee of Experts on the Transport of Dangerous Goods.[332]

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[332] The actual classification of dangerous goods is the following:

Class 1 - Explosives
- Division 1.1 - Articles and substances which have a mass explosion hazard
- Division 1.2 - Articles and substances which have a projection hazard, but not a mass explosion hazard
- Division 1.3 - Articles and substances which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard
- Division 1.4 - Articles and substances which present no significant hazard
- Division 1.5 - Very insensitive substances which have a mass explosion hazard

Class 2 - Gases: compressed, liquefied, dissolved under pressure or deeply refrigerated

Class 3 - Flammable liquids

Class 4 - Flammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases
- Division 4.1 - Flammable solids
- Division 4.2 - Substances liable to spontaneous combustion
- Division 4.3 - Substances which, on contact with water, emit flammable gases

Class 5 - Oxidizing substances; organic peroxides
- Division 5.1 - Oxidizing substances, other than organic peroxides
- Division 5.2 - Organic peroxides

Class 6 - Poisonous (toxic) and infectious substances
- Division 6.1 - Poisonous (toxic) substances
- Division 6.2 - Infectious substances

Class 7 - Radioactive materials

Class 8 - Corrosives

Class 9 - Miscellaneous dangerous goods.

Since the UN Committee of Experts might make changes to these classes, the Eleventh Panel Meeting suggested the deletion of the details of the classification from the text of the Annex and reference to the Technical Instructions and the UN Committee of Experts.[333]

F. Chapter 4. Limitation on the Transport of Dangerous Goods by Air

The First Meeting only stated that the Manual should include which dangerous goods could be carried and which ones were forbidden.[334]

IATA suggested that compliance with the Annex and Technical Instructions would be the only way dangerous goods could be carried. It brought up the "fundamental statement"[335] that "Dangerous Goods shall not be carried in an aircraft except as provided for in" the Annex and

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[333] Chapter 3 of Amendment No. 4 of 1989: "The classification of an article or substance shall be in accordance with the provisions of the Technical Instructions. Note.- The detailed definitions of the classes of dangerous goods are contained in the Technical Instructions. These classes identify the potential risks associated with the transport of dangerous goods by air and are those recommended by the United Nations Committee of Experts on the Transport of Dangerous Goods."

[334] Dangerous Goods Panel, 1st Meeting, Report, ICAO Doc. DGP/1-WP/5, 21 January 1977, at 1-27.

[335] Dangerous Goods Panel, 2nd Meeting, Report, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 2-2 para. 2.2.2.3.1.

specifications and procedures of the Technical Instructions.[336]

While some dangerous goods are prohibited because they are too dangerous to be permitted for carriage by air under any circumstances, some are too dangerous only under normal circumstances. A State could grant an exemption in case of exceptional circumstances. The Third Panel Meeting added new provisions "to assist States when they were considering granting exemptions".[337]

G. Chapter 5. Packing

Because of the detailed specifications required, the First Meeting decided to draft only general principles on packing, leaving the detailed specifications to the Technical Instructions.

Following the Recommendations of the UN Committee of Experts, the specifications on packaging are performance-oriented.

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[336] Actual para. 4.1 of the Annex. Dangerous Goods Panel, 2nd Meeting, **Review of Draft SARPS Developed at DGP/1 to Ensure Consistency between SARPS and Dangerous Goods Supplementary Technical Document**, ICAO Doc. DGP/2-WP/6, 4 May 1977, at 6.

[337] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-3 para. 1.3.2, 2-12 para. 4.4.2.; now Paragraph 4.2 of the Annex, and Part 1 Chapter 2 of the Technical Instructions.

The Panel decided to have test procedures to be met by the package, instead of stating how the package should be made. One Panel Member suggested that "any further changes in test procedures should be handled first by the UN Committee of Experts in order that testing procedures could basically be the same for all modes."[338]

The Instructions provide for a transitional packaging arrangement in order to allow the packaging industry to adopt these new standards. The Panel decided to allow transitional packagings to be used until 31 December 1990.[339]

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[338] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-5 para. 1.4.3.

[339] Dangerous Goods Panel, 11th Meeting, **Report**, ICAO Doc. DGP/11-WP/47, 2 October 1987, at 1-8 para. 1.2.17.6; at 3-1-3 para. 1.3.1 and 3-1-6 para. 1.4 of the Technical Instructions. In 1972, the American "National Transportation Safety Board" testified that the Delta Air Lines Contamination Incident of 31 December 1971 was the result of a carriage made under a special permit (No. 5800) allowing the continuation in service of containers made obsolete by amendments to the regulations. See Hearings before the Subcommittee on Government Activities of the House Committee on Government Operations, House of Representatives, 92nd Congress, 1st and 2nd Sess., June 28, 1972, **Transportation of Hazardous Materials**, at 311.

H. Chapter 6. Labelling and Marking

The First Panel Meeting suggested using the UN labels, which were also used by IATA. Two such labels are peculiar to air carriage, the "Magnetized Material" and "Cargo Aircraft Only". The Panel explained the objectives of the labelling system as the following: first, the ability to recognize the dangerous goods by the general appearance of the label, second, to provide a pictorial marking so the risk can be easily identified and third, to provide a guide for proper handling and stowing.[340]

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[340] Dangerous Goods Panel, 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 1-7 para. 1.2.7.1. At 1-36 para. 2.7.1.:

"Note.- 1. The class hazard labelling system is based on the classification of dangerous goods and has been established with the following objectives:

a) to make dangerous goods easily recognizable from a distance by the general appearance (symbol, colour and shape) of the labels they bear;

b) to make the nature of the risk easy to identify by means of symbols. The five main symbols: bomb (explosion), flame (fire), skull and crossbones (poisons), trefoil (radioactivity), acids spilling from two glass vessels and attacking a hand and a metal (corrosion), are supplemented by two others to indicate oxidizing materials (a flame over a circle) and non-inflammable compressed gases (a gas cylinder);

c) as a rule, goods bearing labels with backgrounds of different colours or colour patterns should not be stowed together; in certain cases, even goods bearing labels of the same colour should not be stowed together.

2. Handling labels are intended to assure the proper handling and stowage of dangerous goods on aircraft,

Each package shall be marked with the shipper's name, the appropriate UN number and other markings specified in the Technical Instructions, unless otherwise provided for in the Instructions.

1. Unit Load Devices

Since packages containing dangerous goods can be loaded into a unit load device (ULD), working group meetings suggested that each unit load device containing dangerous goods must display on its exterior, class hazard information corresponding to the class label(s) displayed on the dangerous goods packages stored in it. For many airlines representatives and the IATA's Airport Handling Committee, the requirement for externally labelling ULDs containing dangerous goods "would prove to be impracticable for the operators."[341] The IATA Committee suggested that the ULD must display only an indication of dangerous goods

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including differentiating between those dangerous goods which are acceptable on cargo aircraft only and those which are acceptable on all aircraft."

[341] Dangerous Goods Panel, 6th Meeting, **Identification of Unit Load Devices Containing Dangerous Goods**, ICAO Doc. DGP/6-WP/19, 4 February 1982. IATA's Airport Handling Committee at its 16th Meeting, 1 to 3 December 1981.

that are contained, a position adopted by the Sixth Panel Meeting.[342]

Nonetheless, a Commissioner contested this decision on the grounds of diminution of safety and, following a debate, the Commission agreed to submit the proposals to States and international organizations for comments.[343] With a majority of States in favour of the Sixth Panel Meeting's decision, the Commission asked the Panel to review the Technical Instructions accordingly, the Seventh Panel Meeting adding detailed specifications to the exterior identification of the ULDs.[344]

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[342] Dangerous Goods Panel, 6th Meeting, **Report**, ICAO Doc. DGP/6-WP/67, 7 April 1982, at 6 para. 1.2.2. and, in the Technical Instructions, at 5-2-2 para. 2.7. "Ninety per cent of the ULDs used for transporting dangerous goods consist of a pallet and a net, wherein the dangerous goods packages and their associated hazard labels are visible. Any further external labelling is superfluous, and in any case there would be a problem affixing labels to nets... On longhaul, multi-sector flights, with dangerous goods being off-loaded, and on-loaded, at each stop, it would be extremely difficult to ensure the external labelling always correctly indicated the dangerous goods content..." Dangerous Goods Panel, 7th Meeting, **Identification of Unit Load Devices**, ICAO Doc. DGP/7-WP/17, 16 November 1982, at 2.

[343] Air Navigation Commission, 100th Sess., Minutes of the 15th Meeting, 21 June 1982, ICAO Doc. AN Min. 100-15, 21 September 1982, at 91. State Letter AN 11/27.1.1 - 82/126 dated 1 September 1982.

[344] Actual Paragraph 2.7 at 5-2-2 of the Technical Instructions. Dangerous Goods Panel, 7th Meeting, **Report**, ICAO Doc. DGP/7-WP/92, 9 March 1983, at 1-2 at 1.2.5.

2. Missing Labels

While the Panel decided that all packages, overpacks and freight containers had to be labelled as required, and that the operator had to inspect these packages for proper marking, labelling, holes, etc., the Second Panel Meeting also introduced in a standard that the operator had to replace lost or detached labels with the information provided on the shipping papers.[345]

The Panel realised later that there were no such requirements in the Technical Instructions, while some members of a working group found that the standard placed too great a burden on the operator and should be deleted.[346] It was suggested that the operator replace them only when he discovers that labels are lost, detached or illegible.[347]

Nonetheless, at the same time, the Panel decided to remove from the Annex detailed specifications on labelling since they might change in the future and it was better to

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[345] Former Para. 7.1 of the draft Annex, renumbered later 6.1. Dangerous Goods Panel, 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 2-3 para. 2.2.2.6.1.

[346] Dangerous Goods Panel, 5th Meeting, **Report of the Working Group Meeting Held in Washington, 10 - 28 October 1980**, ICAO Doc. DGP/5-WP/4, 13 November 1980, at 7 para. 4.4.10.

[347] Dangerous Goods Panel, 5th Meeting, **Consequent Changes to the Draft Annex 18**, ICAO Doc. DGP/5-WP/5, 27 november 1980, at A-27.

avoid changes to the Annex as such.[348] Paragraph 6.1 was then amended to say only that labelling had to be in accordance with the Technical Instructions. A new paragraph was added in the Instructions to the effect that when the operator discovers that labels are lost, detached or illegible he must replace them with appropriate labels in accordance with the information produced in the dangerous goods transport document.[349]

I. Chapter 7. Shipper's Responsibilities

If Annexes to the Chicago Convention are normally addressed to Contracting States, the obligations elaborated in Chapter 7 on Shipper's Responsibilities and Chapter 8 on Operator's Responsibilities of Annex 18 have to be undertaken by private persons.

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[348] Dangerous Goods Panel, 5th Meeting, Report, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 2-1.

[349] ibid. at 1-80; at 5-2-2 para. 2.6 of the Technical Instructions.

1. The Shipper's Certificate

a. Signature

The First Panel Meeting suggested that the shipper signs the Shipper's Certificate. The problem is that the freight forwarder is usually the person who gives the goods to the carrier, and signs the air waybill. The final version of paragraph 7.2 says that the Certificate has to be signed by the person who offers dangerous goods for carriage.

At first, the Panel concluded that facsimile signatures should not be acceptable, since, "whatever the legal position regarding the acceptability of facsimile signatures, it seems important that some person should accept personal responsibility for the certification."[350]

The Technical Instructions used to say that the shipper had to manually sign the Certificate and that it must not be signed by any handling agent, freight forwarder, consolidator or operator on behalf of the shipper.[351] This

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[350] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-10 para. 2.8.1.

[351] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-V-1 (PART V - Chapter 1 - 1.3).

provision was also found in the IATA Regulations.[352] It used to be part of the proposed Annex paragraph 7.3.1 on the Shipper's Certificate, that the shipper shall execute and sign and that a facsimile signature shall not be acceptable.[353]

While the IATA Regulations used to say specifically "stamped facsimile signature permitted,"[354] this permission was deleted at the 1974 Meeting of the IATA Board, since it "was felt impossible to effectively enforce the rules pertaining to the issuance and completion of the Shipper's Certification and that there was a definite need to put more teeth into existing industry rules and regulations".[355] The

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[352] "The shipper must complete and manually sign the Shipper's Certification for restricted articles as shown on the next page, in duplicate for each consignment. In no circumstance shall an IATA Cargo Agent, consolidator or a forwarder complete or sign the Shipper's Certification for restricted articles". Twentieth Edition (1977) of the IATA Regulations, Section 1 para. 20.

[353] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 2-17.

[354] Eighth Edition (1963) of the IATA Regulations, Section 1 para. 3(1)(b).

[355] **Report Twenty-First Meeting IATA Restricted Articles Board Geneva, 9th-17th September, 1974**, at 9 para. M/34; Eighteenth Edition (1975) of the IATA Regulations, Section 1 para. 21.

Board reconsidered this question in 1976, and decided to add that the Certification had to be signed "manually".[356]

The Panel's position, in the "modern age of automation", was criticized by some national authorities.[357] The requirement that a shipper sign manually and not someone else on his behalf was deleted in the proposed Annex.[358]

Likewise, the IATA Restricted Articles Board decided in 1980 to delete "manually" from the requirement. There was no legal objection to accepting mechanically-printed signatures in the shipper's certification, and the 1975 Montreal Protocol No. 4 amending the Warsaw Convention (18 ratifications, not in force) read at Article III (amending Article 6), "The signature of the carrier and that of the shipper may be printed or stamped". The IATA Board adopted this principle for the 24th (1982) Edition of the IATA Regulations.[359]

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[356] **Report Twenty-Fifth Meeting Miami, 27th September-6th October, 1976**, at 3 para. M/12; Twentieth Edition (1977) of the IATA Regulations, Section I para. 21.

[357] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-74.

[358] Dangerous Goods Panel, 4th Meeting, Report, ICAO Doc. DGP/4-WP/2, 25 January 1980, at A2-1 and A1-55.

[359] **Minutes 33rd Restricted Articles Board Meeting Cologne, 10th-14th November, 1980**, at 14; 24th Edition of the IATA Dangerous Goods Regulations, Section 8 para. 8.1.20: "...The signature may be by hand, or be reproduced

Nonetheless, the IATA Board refused to remove its prohibition of having the Certification signed by a consolidator, a forwarder or an IATA Cargo Agent.[360] It rejected the proposal to align its requirements with the Technical Instructions, considering "that experience gained with the current procedures did not justify any relaxation of the Regulations whereby the proposed change could mean that someone unfamiliar with the content of a package of dangerous goods could sign the Shipper's Certificate, thus detracting from safety."[361]

b. Statement

The Panel rejected the inclusion on the Certificate of a declaration stating: "I further agree that any operator

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by printing or stamping or as a carbon copy..." Since shippers were having difficulties to understand the difference between a signature reproduced by printing and one that is reproduced by typing, the Board amended this provision, as actually found in the 30th Edition (1989) of the Regulations, at the same paragraph: "...The signature may be written by hand, or it may be in the form of a facsimile reproduced by printing or stamping or as a carbon copy. A typewritten signature is not acceptable." **Minutes 44th Dangerous Goods Board Meeting Madrid, 26-30 November 1984**, at 10 para. 28.

[360] 30th Edition (1989) of the IATA Dangerous Goods Regulations, Section 8 para. 8.1.21: "The Declaration form must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA Cargo Agent."

[361] **Minutes 37th Restricted Articles Board Meeting Montreal, Octobei 5-9, 1981**, at 6 para. 30.

involved in the shipment of this consignment may rely upon this Certificate",[362] considering that it relieved operators of all responsibility for ensuring that goods were fit to be carried,[363] while in the IATA Regulations the paragraph on Shipper's Certification provided that it was the responsibility of the shipper or his authorized agent to comply with the specific provisions of the IATA Regulations.

The "I" of the statement, refers to the person who signs the Certificate, while the shipper's organization or company was in reality responsible for the shipment. The Panel concluded that "in practice this wording had a desirable psychological effect in making the person signing the declaration take a strong personal interest in the preparation of the consignment."[364]

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[362] Dangerous Goods Panel, 1st Meeting, **Development of SARPS**, ICAO Doc. DGP/1-WP/2, 6 October 1976, App. B.

[363] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-10 para. 2.8.2.2.

[364] Dangerous Goods Panel, 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 1-8 and 1-9 para. 1.2.8.1. Paragraph 4.1.9 at 4-4-2 of the Technical Instructions: "The dangerous goods transport document... must bear a declaration signed by the person who offers the dangerous goods for transport which includes the following text: 'I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled and are in all respects in proper condition for transport by air according to applicable international and national governmental regulations.'"

This was the previous position of the IATA Restricted Articles Board when it discussed a suggestion to change the wording of "I hereby certify" by "It is hereby certified". The change was introduced to cover the case when the shipper is a company, since it should be the company that would be liable and not the person actually signing the Certification. The Board decided nonetheless to keep the "I hereby certify" which it considered a sound formulation.[365]

c. Separate Certificate

In line with the UN Recommendations, the Panel suggested that the requested information could be combined on an existing shipping document such as the air waybill, and proposed the deletion of the standard form of the Shipper's Certificate in the proposed Annex.[366] According to members of the IATA Restricted Articles Board, the deletion arose from the fact that "ICAO fully recognised that in this case, the industry was at liberty to devise its

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[365] **Report Twenty-Third Meeting IATA Restricted Articles Board Cologne, 22nd-27th September, 1975, at 5; Report Twenty-Fourth Meeting Geneva, 30th March - 2nd April, 1976, at 1 para. M/4.**

[366] Dangerous Goods Panel, 4th Meeting, **Report**, ICAO Doc. DGP/4-WP/2, 25 January 1980, at 14 para. 2.3.17; Air Navigation Commission, **Dangerous Goods Panel (DGP) - Review of the Report of the Fourth Meeting of the Panel**, ICAO Doc. AN-WP/5026, 5 February 1980, at 2.

own forms and procedures, provided that all of the information required by ICAO was included." It was then up to IATA to draft the form of Shipper's Certification.[367]

A subsequent ICAO working group questioned the Panel's decision, "mainly on the grounds that the Shipper's Certificate was a clearly visible specialized document which alerted all personnel concerned that the shipment required special attention," which was vital in less developed countries.[368]

Combined with the air waybill, it might be impossible for the shipper to sign it. The Panel suggested then to delete the provision on the option of integration but did not close the door to such a possibility.[369] The proposed Annex was modified to talk about the execution by the shipper of "a transport document which contains the information shown (the actual version says "required") in

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[367] **Minutes 33rd Restricted Articles Board Meeting Cologne, 10th-14th November, 1980, at 7 para. 28.**

[368] Dangerous Goods Panel, 5th Meeting, **Report of the Working Group Meeting Held in Washington, 10 - 28 October 1980**, ICAO Doc. DGP/5-WP/4, 13 November 1980, at 3 para. 3.2.

[369] "The air waybill must contain an indication that the consignment contains dangerous goods as described on the accompanying dangerous goods transport document, and, when applicable, that the consignment must be loaded on cargo aircraft only." ibid., Appendix, at 20.

the Technical Instructions"[370], instead of the previous "Shipper's Certificate".

The Council was satisfied that there was no "potential" contradiction between this document and those required under the Warsaw Regime: "The air waybill foreseen in paragraph 7.3 was a document which, under Article 5 of the Warsaw Convention, was issued as prima facie evidence of the conclusion of a contract and the receipt of goods by the carrier and of the condition of carriage including applicability or otherwise of the Warsaw regime."[371]

d. Proposed Amendment: No Mention of an Air Waybill

Before Amendment No. 4 of 1989, Paragraph 7.3 stated that the air waybill shall show clearly that the consignment contains dangerous goods, "as described on the accompanying dangerous goods transport document".

In practice, it may happen that the carrier does not require an air waybill, giving only an electronic transport document. The Warsaw Convention only states that without an air waybill containing specific indications, "the carrier shall not be entitled to avail himself of the provisions of

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[370] ibid. at 4; paragraph 7.2.1 of Annex 18.

[371] Council, 103rd Sess., Minutes of the 10th Meeting, 15 June 1981, ICAO Doc. 9347 C/1063, C-Min. 103/10, 1981, at 65 para. 7.

this Convention which exclude or limit his liability" (Article 9). Moreover, in 1987, the IATA Dangerous Goods Board deleted the requirement that the shipper's declaration be attached to the air waybill, since it created "problems for carriers which are now transmitting air waybills electronically".[372]

To reflect the current situation where an air waybill is not always required, the Eleventh Panel Meeting suggested that Amendment No. 4 delete any reference to the air waybill in the Annex, thereby removing "the inference that it is Annex 18 which requires the production of an air waybill",[373] and refer only to "a dangerous goods transport document". At the same time, the Panel added that the "person-who-offers-dangerous-goods" has to **provide** the document to the operator, not only to complete and sign it.[374]

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[372] **Minutes 49th Dangerous Goods Board Meeting Rio De Janeiro - 11-13 May 1987**, at 23 para. 127 and 128. Previous text of Section 8 para. 8.1.8: "...The other signed copy must be attached to the Air Waybill and forwarded with the shipment to its destination." Text in the 29th Edition (1988) (and the following): "...The other signed copy must be forwarded with the shipment to its destination."

[373] Dangerous Goods Panel, 11th Meeting, **Report**, ICAO Doc. DGP/11-WP/47, 2 October 1987, at 2-A-6.

[374] See **supra** under the definition of **consignment**, Part VI, Subpart C-4.

2. The Check List

The First Panel Meeting suggested the inclusion of a Recommendation of a shipper's check list to ensure that all responsibilities would be discharged.[375] This Recommendation was nevertheless deleted. It first provided the Technical Instructions with a decision chart, for the shipper to use, stating that "the method proposed does not go into great detail".[376] But the decision chart was later retrieved. The Panel reconsidered its position on the shipper's check list when discussing "Training",[377] and took out all references to a check list in the Annex.

While not referred to as a check list, there is nonetheless a list in the Technical Instructions on what the shipper must ensure when he offers dangerous goods for transport by air.[378]

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[375] Paragraph 8.3 of the Proposed Material: RECOMMENDATION. - Shippers should be required to develop and use a detailed check list to ensure that all their responsibilities concerning the preparation of dangerous goods consignments for transport by air are discharged.

[376] Dangerous Goods Panel, 3rd Meeting, **Completion of the Development of the Dangerous Goods Supplementary Technical Document**, ICAO Doc. DGP/3-WP/4, 10 March 1978, at 1 para. 3.3.

[377] Dangerous Goods Panel, 2nd Meeting, **Report**, ICAO Doc. DGP/2-WP/7, 31 May 1977, at 1-9 para. 1.2.8.3.

[378] Part 4 of the Technical Instructions.

While there is no longer any reference in the Annex to the shipper's check list, there is still a reference to an operator's check list, to the effect that the operator should use one.

3. Obligations before the Shipping

The person who offers dangerous goods shall:

(1) ensure that they are not forbidden for air transportation, that they are properly classified, packed, marked and labelled, and that they are accompanied by a properly executed dangerous goods transport document as specified;

(2) complete, sign and provide a dangerous goods transport document to the operator.

The Technical Instructions add to the shipper's responsibilities for dangerous goods. There are additional requirements for infectious substances and radioactive materials.[379]

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[379] Part 4 of the Technical Instructions.

J. Chapter 8. Operator's Responsibilities

1. Carrier's Reservations

One of the practices encountered in the IATA Regulations are carriers reservations. There was some debate on the question during the First Panel Meeting, which finally drafted a Standard on the carrier's right to impose special requirements or procedures with respect to a particular shipment, later adding the carrier's right to refuse to accept a consignment of dangerous goods.[380]

The whole Standard later became a Note, for some Air Navigation Commissioners considered this "to contradict the purpose of the regulations".[381] Some argued that "it might result in conflict with the regulations of some States".[382] Others said it should be retained, since it would ensure the operator's right of refusal, as a State has the right to

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[380] "Noting in this Annex shall be interpreted as preventing an operator, to ensure the safe transport of dangerous goods, from refusing to accept a particular shipment for transport or from imposing special requirements or procedures with respect to a particular shipment." Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 2-18 para. 8.1.

[381] Air Navigation Commission, 88th Sess., Minutes of the 15th Meeting, 15 June 1978, ICAO Doc. AN Min. 88-15, 1 September 1978, at 69.

[382] Air Navigation Commission, 88th Sess., Minutes of the 16th Meeting, 19 June 1978, ICAO Doc. AN Min. 88-16, 20 September 1978, at 71 and 72.

impose more stringent regulations. The Air Navigation Commission agreed first on the following text: "Nothing in this Annex shall be interpreted as requiring an operator to transport dangerous goods."[383]

The Eleventh Panel Meeting felt Chapter 2 on Applicability was a more appropriate place for such a note and recommended its transfer.[384]

2. Acceptance Check List

The First Panel Meeting recommended the development of an operator's check list "to ensure compliance". From this Recommendation, the check list became a Standard. Let us note that there is no Standard on the shipper's check list.

The Technical Instructions provided a sample of a check list, but since many airlines already had their own, in a much detailed format,[385] the Standard, at paragraph

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[383] ibid. at 72.

[384] Amendment No. 4 of 1989, Paragraph 2.1, Note 4. - It is not intended that this Annex be interpreted as requiring an operator to transport a particular article or substance or as preventing an operator from adopting special requirements on the transport of a particular article or substance.

[385] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-

8.2, was changed so as to state that the "operator shall develop and use an acceptance check list as an aid to compliance".

In 1984, an IATA Task Force developed a dangerous goods separate acceptance check list to be standardized amongst operators, one for non-radioactive and one for radioactive consignments. The IATA Dangerous Goods Board could not agree to include the check lists in the Regulations and decided to include them as an insert in the Regulations as recommended check lists.[386]

These check lists are now electronic since IATA concluded an agreement with SITA[387] to incorporate a Dangerous Goods Control System[388] in the SITA Air Cargo Service, which includes a series of information displays, routing verification, shipment acceptance with automated check list and NOTOC information. The electronic check list, with the complete dangerous goods regulations, will naturally save time and be more efficient.[389]

WP/4945, 8 June 1979, App. B, at B-83.

[386] **Minutes 43rd Dangerous Goods Board Meeting Montreal, 30 April - 4 May, 1984**, at 15 para. 44 and 45.

[387] Société internationale de télécommunications aériennes.

[388] Electronic Dangerous Goods Airline Reference System (EDGARS).

[389] **Minutes 52nd IATA Dangerous Goods Board Meeting Cairo, 10-14 October 1988**, at 6 and Attachment "E".

3. Obligations

The operator has many obligations with regard to the dangerous goods that he receives for transportation.

a. Acceptance

The operator shall not accept dangerous goods unless they are accompanied by a completed dangerous goods transport document (except if the Instructions say it is not required), and unless inspected by him for compliance with the acceptance procedures contained in the Technical Instructions.

Before Amendment No. 4 applicable on 16 November 1989, the Standard stated that the operator shall not accept a package or overpack containing dangerous goods unless properly described and certified as meeting the applicable requirements. A Panel Member submitted that in the preparation for enacting this provision (Para. 8.1) in his country, some had suggested that "this was an impossible requirement to place upon the operator since he is unlikely to have any way of ascertaining whether or not the dangerous goods presented for carriage have been correctly identified" and certified as meeting applicable requirements in the

dangerous goods transport document. For this Member, there was "a possibility that operators may find themselves required to meet provisions which they legally cannot."[390]

The Eleventh Panel Meeting suggested to change the wording, "unless properly described and certified" to "unless accompanied by a completed dangerous goods transport document, except if the document is not required by the Technical Instructions". This is now part of the Annex.

b. Inspection upon Loading

The operator shall not load packages or overpacks containing dangerous goods and freight containers containing radioactive materials onto an aircraft or into a unit load device unless inspected for evidence of leakage or damage. If evidence is found, they shall not be loaded.

c. Removing

The operator shall remove what is loaded if it appears to be damaged, leaking or contaminated, and ensure that the rest of the cargo is not contaminated.

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[390] Dangerous Goods Panel, 8th Meeting, **Annex 18-Paragraph 8.1**, ICAO Doc. DGP/8-WP/76, 25 January 1984.

Since it was questioned if the operator was competent to remove those goods, the First Panel Meeting included that the operator might arrange the removal of the goods by an appropriate authority or organization.[391]

An aircraft contaminated by radioactive materials shall be taken out of service.

d. Passengers

The operator shall not carry the goods in a cabin occupied by passengers or on the flight deck, except as permitted by the Technical Instructions.

There is a debate on the maximum weight or number of dangerous goods which may be loaded on a passenger aircraft, considering also the existence of "combi" or passenger-cargo aircraft.

(1) Overall Limit

The Third Panel Meeting agreed that the question of the overall limit of dangerous goods in an aircraft was "an important philosophical question".[392] It was also the IATA

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[391] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-12 paragraph 2.9.4.

[392] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-8 para. 1.6.6.1.

Working Group's long time position that when a dangerous article meets all the IATA Regulations, "such article is no longer considered a "dangerous" article, but a "restricted" article."[393]

ICAO specifications were designed to limit the maximum quantity in any one package only, with no overall aircraft limit. Since packagings were specified so as to make the leaking of one package unlikely, the leaking of one package would not be disastrous. On the other hand, increasing the number of dangerous goods on board multiplies the risks of accident, and passengers have the right not to be exposed to such risks. Each class of dangerous goods needs its own overall limit, probably on a arbitrary basis, and even if study of survivable aircraft accidents does not show that this would affect the number of casualties.[394]

There was "considerable discussion" on the topic at the Third Meeting where overall limitations were agreed on in principle but great difficulties ensued in determining

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[393] **Report of Fourth Meeting IATA Permanent Working Group on Restricted Articles The Hague, May 7th-17th, 1956,** at 29 para. M/143.

[394] "Nearly all fatal causalities are caused by impact or result from the subsequent fire; survivors are those able to leave the aircraft within the first one to two minutes before the fire has spread." Dangerous Goods Panel, 7th meeting, **Overall Quantity Limits on Passenger Aircraft,** ICAO Doc. DGP/7-WP/45, 4 January 1983.

what they were.[395] Some States, like the U.S.A., have quantity limitations. The Panel adopted a Recommendation for ICAO that it should study further if an overall limitation should be placed and what such limits should be.[396]

The Air Navigation Commission "took action" in 1983[397] on the Panel's recommendation that its study on the subject was completed, the latter concluding that while there was an overall absolute limit for passenger aircraft of 50 Transport Index for radioactive materials, it felt that safety depended on the individual package and no further work was required.[398]

One may wonder why the regulations should provide different criteria for limitations and packaging for cargo and passenger aircraft, since in a cargo aircraft this exposes a crew to a higher degree of danger. It seems that this difference originates from the principles of carriage by rail, the principles of which were carried over into air

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[395] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-8 and 1-9 para. 1.6.6.

[396] ibid. at 1-16.

[397] Air Navigation Commission, 100th Meeting, Minutes of the 22nd Meeting, 28 March 1983, ICAO Doc. AN Min. 102-22, 28 April 1983, at 92.

[398] Dangerous Goods Panel, 7th Meeting, **Report**, ICAO Doc. DGP/7-WP/92, 9 March 1983, at 1-2 para. 1.2.6 and 3-1 para. 3.1.3.

transport.[399] The crew is more experienced than the passengers, and a Standard (Paragraph 8.8) says that the dangerous goods must be accessible.

At the Seventh Panel Meeting, since "Members generally felt that safety depended on the individual package", it was considered that no further work was required on this subject, though some Members stated they might produce working papers in the future.[400]

(2) Combi Aircraft

A small group of experts concluded in December 1980 that "based on the tests performed and the US/FAA conclusion within this testreport (D6-20571) together with the official certification of the cargo compartments by the US/FAA and the positive experience of some main combi aircraft operating carriers there is no reason to exclude the carriage of dangerous goods on the main deck cargo

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[399] Dangerous Goods Panel, 4th Meeting, **Report**, ICAO Doc. DGP/4-WP/2, 25 January 1980, at 2 para. 2.2.1.

[400] Dangerous Goods Panel, 7th Meeting, **Report**, ICAO Doc. DGP/7-WP/92, 9 March 1983, at 1-2 para. 1.2.6. "Furthermore, it was pointed out that both the Annex and the TI already contained statements which were intended to make it clear that no operator was under any obligation to transport a particular article or substance or from imposing special requirements on a shipment. It was felt that this afforded adequate protection and it was decided that no amendment to the Annex was needed." 9th meeting, **Report**, ICAO Doc. DGP/9-WP/63, 1 March 1985, at 2-1 para. 2.1.

compartments as long as the criteria mentioned above are met and, all certification requirements applicable are fulfilled."[401]

For this reason, the Fifth Panel Meeting agreed upon a provision of the Technical Instructions to permit dangerous goods to be loaded in passenger deck cargo compartments only if such compartments met the requirements for aircraft Type B cargo compartments.[402] A "Class B cargo or baggage compartment" is defined in the ICAO Airworthiness Technical Manual, Part III, Section 4, Chapter 2 as one in which: (a) there is sufficient access in flight to enable a crew member to effectively reach any part of the compartment with the contents of a hand fire extinguisher; (b) when the access provisions are being used, no hazardous quantity of smoke, flames, or extinguishing agent, will enter any compartment occupied by the crew or passengers; (c) there is a separate approved smoke detector or fire detector system to warn the pilot or flight engineer station.

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[401] Dangerous Goods Panel, 5th Meeting, **Transport of Dangerous Goods on the Main Deck of Combi Aircraft**, ICAO Doc. DGP/5-WP/21, 21 January 1981, at 8.

[402] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 1-5 para. 1.3.3.4. Paragraph 2.1 at 5-2-1 of the Technical Instructions: "...Dangerous goods may be carried in main deck cargo compartment of a passenger aircraft provided that compartment meets all the certification requirements for a Class B aircraft cargo compartment. Dangerous goods bearing the "Cargo aircraft only" label must not be carried on a passenger aircraft."

IFALPA (International Federation of Air Line Pilots Associations) contested these tests, since they were conducted in optimum and stable flight and throttle conditions, and did not reflect day-to-day airline flight operations. No tests were made on crew response times to a cargo hold smoke warning. It felt that more testing and trials should be performed. It proposed that until such time as retesting was done, no dangerous cargo should be carried in the upper deck Class B compartment.[403]

The Air Navigation Commission accepted Recommendation 1/2 of the Sixth Panel Meeting, "That an appropriate body within ICAO be requested to consider the adequacy of main deck Class B cargo compartments for the transport of dangerous goods in view of the associated hazards." The Commission added this item on the working programme of the Airworthiness Committee.[404]

Informally and as provisional guidance, the Airworthiness Committee answered that it was not technically feasible to modify the characteristics of Class B cargo compartments as described in the Airworthiness Technical

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[403] Dangerous Goods Panel, 6th Meeting, **The Carriage of Dangerous Goods in Class "B" Main Deck Cargo Compartments on Combi Aircraft**, ICAO Doc. DGP/6-WP/38, 12 February 1982 and ADD. 1 March 1982.

[404] Air Navigation Commission, 100th Sess., Minutes of the 16th Meeting, 22 June 1982, ICAO Doc. AN Min. 100-16, 21 September 1982, at 94 para. 7.

Manual, to make them suitable for unrestricted carriage of dangerous goods. It suggested that the Panel review the toxicity, smoke and other related properties of the various items of dangerous goods and identify items which would be safe to carry in Class B cargo compartments, taking into consideration the close proximity of these compartments to the passenger and crew compartments.[405]

There were subsequent proposals to modify this provision of the Technical Instructions, making references to other Classes of cargo compartments, but the majority of Members "were of the view that the present requirements were simple and had proved to be adequate in practice".[406]

e. Stowage

The operator shall stow the packages following the required separation to prevent incompatibility and required position to prevent interaction in the event of leakage.

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[405] Airworthiness Committee, **Adequacy of Class B Cargo Compartments for the Transport of Dangerous Goods**, ICAO Doc. AIR C-Memo/260, 8 November 1982, and Dangerous Goods Panel, 8th Meeting, **Cargo B Cargo Compartments**, ICAO Doc. DGP/8 Flimsy No. 10, 7 February 1984.

[406] Dangerous Goods Panel, 8th Meeting, **Report**, ICAO Doc. DGP/8-WP/80, 24 February 1984, at 1-4 para. 1.2.7.3. See Dangerous Goods Panel, 8th Meeting, **Loading of Dangerous Goods**, ICAO Doc. DGP/8-WP/54, 29 December 1983.

He shall comply with the special requirements on stowage in case of poisons, infectious substances and radioactive materials.

f. Inspection upon Unloading

The operator shall inspect the dangerous goods upon unloading, inspect the area if damage or leakage is found and remove the contamination.

The first standard suggested was that the operator, upon unloading, shall inspect poisonous and infectious substances for leakage.[407] The Panel extended this duty to all dangerous goods, adding that "packages and overpacks containing dangerous goods shall be inspected for signs of damages or leaking upon unloading" (former Para. 8.6 of the Annex),[408] and later that "packages or overpacks containing dangerous goods and freight containers containing radioactive materials shall be inspected..." (actual Para. 8.3.4, Amendment No. 4 of 1989).

The contaminated aircraft shall be removed without delay.

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[407] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 2-19.

[408] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 2-35.

g. Segregation of Animals

One of the concerns of the Sixth Panel Meeting was the changes made by the Council during its discussions on adoption of Annex 18 on the physical separation between animals and infectious substances or radioactive materials, namely Paragraph 8.7.2 and 8.7.4 before Amendment No. 4 of 1989.[409] The Panel had suggested deletion of the word "animals" from those provisions, but the Council in adopting these paragraphs decided that the shipper's property should be fully protected from hazards and it was in the interest

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[409] Former Para. 8.7.2: Class 6 substances "shall not be carried in the same compartment of an aircraft with animals..." Former Para. 8.7.4. Radioactive materials "shall be separated from... live animals..."
"One opinion was that the Annex and the Technical Instructions were concerned with safety and not with animal welfare". Dangerous Goods Panel, **Report of the Working Group Meeting Held in Amsterdam, 17 to 24 November 1981**, ICAO Doc. DGP/6-WP/2, 29 December 1981, at 2 para. 2.2. The Sixth Meeting Report contains four other reasons for the deletion: 1- animals have a shorter life spans and seldom travel more than once, while radiation protection measures are make for human beings, taking into account accumulation of exposures over a lifetime; 2- there are too many kinds of animals with enormous different reactions to radiation; 3- it is not possible to develop separation distances for animals; 4- since no separation distances can be established, radioactive materials will not be carried on an aircraft containing animals, creating commercial difficulties. Dangerous Goods Panel, 6th Meeting, **Report**, ICAO Doc. DGP/6-WP/67, 15 April 1982, at 350 para. 2.2.2.

of safety to keep live animals separate from radiation and disease.[410]

As far as poisonous substances were concerned, Panel members considered it unjustified to exclude animals from a compartment containing poison.[411]

As to radioactive materials, the Panel at its Fourth Meeting decided to delete the provision on the separation between animals and radioactive materials, considering "the great variety in the types of animals carried and their varying susceptibility to the effects of radiation."[412] Nonetheless, the final text adopted by the Council contained this provision. As a consequence, the subsequent edition of IATA Live Animals Regulations, effective 1 November 1981, contained the same requirements on separation for all types of animals as it did for persons.[413] The Panel suggested the deletion from 8.7.2 (infectious substances) of

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[410] Air Navigation Commission, 100th Sess., Minutes of the 16th Meeting, 22 June 1982, ICAO Doc. AN Min. 100-16, 21 September 1982, at 94 para. 4, 22/6/82.

[411] "this means that a mouse in a box cannot be loaded on the main deck of a B-747 full cargo with a small package of Division 6.1 substance located 40 m apart!" Dangerous Goods Panel, 6th Meeting, **Stowage of Poisonous Substances with Animals**, ICAO Doc. DGP/6-WP/50, 23 February 1982.

[412] Dangerous Goods Panel, 4th Meeting, **Report**, ICAO Doc. DGP/4-WP/2, 25 January 1980, at para. 2.3.16.

[413] Dangerous Goods Panel, 6th Meeting, **Segregation of Radioactive Materials from Live Animals**, ICAO Doc. DGP/6-WP/49, 23 February 1982.

"animals" and from 8.7.4 (radioactive materials) of "live animals" of the Annex.[414]

The Air Navigation Commission agreed to circulate these deletions to States for comments.[415]

With respect to Paragraph 8.7.2, the Secretariat received 46 replies in favour of the deletion, 4 not in favour, and with respect to Paragraph 8.7.4, 45 in favour and 5 not. The Secretariat stated "this view is not due to any wish to expose animals to harmful radiation but in a recognition that for the types of radioactive packages allowed on aircraft such separation is unnecessary".[416]

The Commission then amended the two paragraphs[417] by deleting "animals" and "live animals" but adding a Note at the end of para. 8.7.4:

> Note. - In the absence of established criteria for the separation of live animals from

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[414] Dangerous Goods Panel, 6th Meeting, **Report**, ICAO Doc. DGP/6-WP/67, 15 April 1982, at 355.

[415] Air Navigation Commission, 100th Sess., Minutes of the 16th Meeting, 22 June 1982, ICAO Doc. AN Min. 100-16, 21 September 1982, at 94 para. 6. State Letter AN 11/27.1.1.-82/126 dated 1 September 1982.

[416] Air Navigation Commission, **Final Review of Amendments in the Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/5454, App. B, 17 January 1983, at B-5.

[417] Air Navigation Commission, 102nd Sess., Minutes of the 7th Meeting, 9 February 1983, ICAO Doc. AN Min. 102-7, 28 March 1983, at 27.

> radioactive materials, separation to the extent practicable is suggested.[418]

At the Council meeting, the Commission reiterated that this question had a long history and that it had been discussed at several meetings of the Panel. Nonetheless, the majority of States consulted and the majority of the Commissioners had agreed.[419]

Some representatives to the Council felt "all life should be respected and that if the least doubt existed with respect to safety of animals stored in aircraft, the existing provision fo Annex 18 should be retained."[420] A representative referred to the Canadian case of **Newell v. Canadian Pacific Airlines, Ltd.**,[421] as an indication that accidents involving animals and dangerous goods might occur. This case dealt with the injuries sustained by two dogs put in the same cargo compartment as dry ice contrary to the carrier's own regulations. The carbon dioxide killed one and injured the other.

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[418] Council, 109th Sess., **1792nd Report to Council by the President of the Air Navigation Commission, Adoption of Amendment 2 to Annex 18 The Safe Transport of Dangerous Goods by Air**, ICAO Doc. C/WP-7649, 3 May 1983.

[419] Council, 109th Sess., Minutes of the 4th Meeting, 30 May 1983, ICAO Doc. 9406 C/1075, C-Min. 109/4, 1983, at 25 para. 18.

[420] ibid., Minutes of the 5th Meeting, 1 June 1983, ICAO Doc. C-Min. 109/5, at 30 para. 7.

[421] 74 Dominion Law Reports (3d) 574 (County Ct., Ontario, 1976).

If animals should not fly with some dangerous goods, even if all the technical experts say there is no danger, only because all life should be respected and an accident might occur, what about human passengers, who travel with dangerous goods, because technical experts say there is no danger?

The Council decided to retain references to "animals" in para. 8.7.2 and 8.7.4, a decision which was contested since it was not taken on technical grounds, and against the opinion of States and the technical expert bodies.[422]

The consequence of this decision, not based on technical proof but concern for animal welfare, was that animals cannot be carried in the same compartment of an aircraft with poisons or infectious substances and that packages of radioactive materials shall be separated from live animals "according to the separate distances in the Technical Instructions." There are nonetheless no separation distances in the Technical Instructions for animals. At para. 2.9.3.3 of page 5-2-5 of the Instructions on **Separation from live animals**, the Instructions say

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[422] "IATA finds it difficult to understand that the Council could reach such a technical decision which is directly in conflict with the recommendations of the DGP, the ANC and a significant majority of the ICAO Member States, who were specifically consulted on this issue." Dangerous Goods Panel, 8th Meeting, **ICAO DGP-Memo/34 Dated 16/6/83 Recent Developments**, ICAO Doc. DGP/8-WP/23, 25 November 1983.

"(Tables to be developed)", the Panel having deferred a decision until further information might be available.[423] The progress on this matter is slow, due to the numerous kinds of animals.

In the proposed 1989 amendment, the Annex did not refer to animals in the suggested paragraph dealing with poison and infectious substances (new para. 8.6.2),[424] but referred only to the Technical Instructions, which allow the stowage of animals and poisons in the same compartment if they are loaded in different closed unit load devices[425] (and, as the former Paragraph 8.7.2 said, in separate unit load devices which are not adjacent to each other). This deletion was not debated within the Council when it adopted

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[423] Dangerous Goods Panel, 10th Meeting, **Report**, ICAO Doc. DGP/10-WP/58, 7 March 1986, at 1-2 para. 1.2.3.3. The IATA Live Animals Board together with the International Office of Epizcotics (composed of State experts on veterinary medicum) have been engaged in developing definitive guidelines for the separation for the separation of animals and packages of radioactive materials and there was a proposal to the Panel that it deferred its action until the guidelines are developed. Dangerous Goods Panel, 10th Meeting, **Separation - Animals and Radioactive Material**, ICAO Doc. DGP/10-WP/48, 10 January 1986; 11th Meeting, **Report of the Dangerous Goods Panel Working Group Meeting**, ICAO Doc. DGP/11-WP/2, 10 April 1987, at 10 para. 4.13; **Report**, ICAO Doc. DGP/11-WP/47, 2 October 1987, at 1-2 para. 1.2.4.

[424] "Packages of poisons and infectious substances shall be stowed on an aircraft in accordance with the provisions of the Technical Instructions."

[425] Technical Instructions, 1989-1990 Edition, Part 5, Chapter 2, para. 2.8, at 5-2-2.

the Amendment.[426] For radioactive materials, there is still reference to animals in the new Paragraph 8.6.3 of the Annex.

h. Securing

The operator shall secure the goods while he carries them, so their orientations will not change and they are protected from being damaged.

i. Loading Cargo Aircraft Only

He shall load the "cargo aircraft only" goods in such a manner that a crew member or other authorized person could see and handle them, except as stated in Technical Instructions, for goods such as poisonous, infectious substances, and radioactive materials.[427]

Since the operator has responsibilities in the loading of the aircraft, he should supervise it. In reality, the operator is not the person who loads the

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[426] Council, 126th Sess., 10th Meeting, 24 February 1989.

[427] There were some doubts during the First Panel Meeting on what a crew member could do with a problem package during the flight, and the danger of accessibility of packages containing poisons. 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-13 para. 2.9.9.

aircraft, but rather airport staff or independent contractors. Thus the operator has difficulties inspecting their work. However, the Third Panel Meeting recognized that the operator could exercise some control over these contractors since he paid them, and suggested in its comments that "the ICAO requirements could be viewed as expressing a general intent and could be applied by States in a manner that best suited their local conditions."[428]

K. Chapter 9. Provision of Information

1. Information

The First Panel Meeting suggested that the operator shall notify the pilot-in-command of dangerous goods on board, adding to the information already included in the NOTOC (Notification to captain).

This requirement was already in the U.S. Regulations. The IATA Working Group had first decided not to add this requirement in its Regulations, considering that "most Members have introduced company-wide procedures whereby the pilot is notified about any type of restricted articles carried aboard the aircraft" and concluded that this matter

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[428] Dangerous Goods Panel, 3rd Meeting, Report, ICAO Doc. DGP/3-WP/18, 12 May 1978. at 1-10 para. 1.6.9.

was, in essence, the responsibility of the individual carrier.[429] The IATA Board decided in 1974 nonetheless to add a requirement in the IATA Regulations, following discussions held during the 1974 Meeting of the Accident Investigation Group of ICAO.[430]

The Panel suggested to include in the information furnished to the crew the steps to be taken in case of emergency. The Panel suggested that it was sufficient to give general advice in the form of a manual or pre-printed sheets, on action to be taken in accordance with the substances carried. The provision of information for each flight in respect of the specific goods carried would be possible in the future with the increasing use of electronic data processing.[431]

There were some discussions at the Fifth Panel Meeting on the amount of information to be given to the pilot and crew. Some believed that the amount should be minimal, having regard to the administrative problems and cost, the fact that a requirement to provide more

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[429] Report of Tenth Meeting IATA Permanent Working Group on Restricted Articles Paris, April 30th - May 4th, 1962, at 3 para. M/12.

[430] Report Twenty-First Meeting IATA Restricted Articles Board Geneva, 9th-17th September, 1974, at 11 and 12; Eighteenth Edition (1975) of the IATA Regulations, Section IX para. 8.

[431] Dangerous Goods Panel, 1st Meeting, Report, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-13 and 1-14 para. 2.10.1.

information might lead to the non disclosure of the potential danger of goods offered for transport.[432]

As to the information to be given to the aerodrome in case of emergency, the Panel agreed that an appropriate recommended practice should be proposed, even if there might be circumstances where it would be difficult for the pilot-in-command to pass the information on the difficulties encountered with the dangerous goods on board to the emergency service personnel of the aerodrome.[433]

A number of members of the Panel Working Group Meeting of 1984 felt that the requirements contained in the Instructions should be re-examined: "the lengthy list of details the pilot was expected to relay by radio seemed hopelessly impracticable." Since these details were also in Annex 18 and modifications to these would take a long time to be accepted, "the matter was not pursued".[434]

Information is also to be provided to passengers and people involved in the transport of dangerous goods to warn them and to enable them to carry out their responsibilities.

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[432] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, 1-3 at para. 1.3.1.1. See para. 1.3.1.2 et seq. for discussions on information.

[433] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-14 para. 2.10.4.

[434] Dangerous Goods Panel, 10th Meeting, **Report of the Dangerous Goods Panel Working Group Meeting (Geneva, 30 September - 4 October 1985)**, ICAO Doc. DGP/10-WP/2, 29 October 1985, at 9 para. 3.6.

2. Emergency Response Procedures

Following the recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods, the Panel set up a working group on the Emergency Response Procedures.[435] It was decided that "any such procedures should be advisory only, should not require the carriage of additional equipment and should only refer to occurrences that happened during flight time" (when the aircraft was moving under its own power).[436]

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[435] Terms of reference: "To examine para 9.2 of Annex 18 and to determine if additional information should be provided in the TI, or elsewhere, to assist operators in complying with this paragraph. This information should be in the form of an initial response to emergency situations in the air. Such response should be capable of being initiated through information already available to the pilot-in-command." Dangerous Goods Panel, **Recent Developments and Future Work**, ICAO Doc. DGP-Memo/39, 12 April 1984, at 2.

[436] Dangerous Goods Panel, 9th Meeting, **Report of the Dangerous Goods Panel Working Group Meeting (Brussels, 15-19 October 1984)**, ICAO Doc. DGP/9-WP/3, 9 November 1984, at 3 para. 10.1. Principles followed in the preparation: "a) that it would be advisory material only and was intended to assist States in developing their own procedures; b) that no new equipment was proposed beyond what was normally carried aboard an aircraft except possibly for a Class D powder extinguisher for use on metal fires; c) that it was intended for publication separately from the TI in a form that would not need frequent amendment; d) that a two-part document would be needed - one part containing condensed information for flight deck use and another part containing expanded information for ground training purposes; and e) that the information would be complementary to the manufacturer's standard emergency procedures and not a replacement for

The Tenth Panel Meeting agreed on the emergency response guide,[437] recommending that it be published for the use of States and, realising that there was little guidance available to deal with smoke, fire and fumes in an aircraft interior, asked that a suitable body consider the problem of smoke, fumes and fire in the interior of an aircraft in order to develop appropriate procedures to be used in these emergencies.

ICAO sent a State Letter on this subject for comments.[438] Following replies, the Air Navigation Commission decided to amalgate the task of "Guidance for smoke, fire or fumes in aircraft" with another one, "Improved survivability during post-crash fires",[439] because

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these procedures." 9th Meeting, **Report**, ICAO Doc. DGP/9-WP/63, 1 March 1985, at 3-1 para. 3.1.1.2.

[437] Dangerous Goods Panel, 10th Meeting, **Report**, ICAO Doc. DGP/10-WP/58, 7 March 1986, at 3-A-2 to 3-A-4. The **Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods**, ICAO Doc. 9481-AN/928, was published in March 1987. It contains general information on cargo compartment classification and locations, fire extinguishers, oxygen equipment accessibility of dangerous goods, emergency response kit; general considerations on dangerous goods in the passenger cabin, the underfloor cargo compartments, on the main deck of "combi" aircraft and on cargo aircraft; examples of dangerous goods incidents checklist and a chart of drills and list of dangerous goods with drill reference numbers.

[438] State Letter AN 11/2 - 86/66 dated 21 July 1986.

[439] Air Navigation Commission, 114th Sess., Minutes of the 7th Meeting, 26 March 1987, ICAO Doc. AN Min. 114-17, 12 May 1987, at 84.

of the similarities between both,[440] for amendment to Annex 8 to the Chicago Convention on "Airworthiness of Aircraft".

L. Chapter 10. Establishment of Training Programmes

The First Panel Meeting stressed the importance of having a uniform and adequate training programmes.[441] It had put the duty to establish those programmes on "Operators, Shippers, Aerodrome Handling Agents, Cargo Agents and Freight Forwarders".[442] At the Third Panel Meeting, "shippers and freight forwarders" was removed from this Standard and put in a Recommendation,[443] "because they may well be only individuals or very small organizations and

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[440] "Although the DGP concern relates to fire, smoke and toxic fumes arising from incidents involving dangerous goods, the problems are the same as those which would arise in the case of any in-flight fire." Air Navigation Commission, **Amalgation of ANC Tasks OPS-5701 and OPS-8602**, ICAO Doc. AN-WP/6059, 19 March 1987, at 2 para. 3.

[441] Dangerous Goods Panel, 1st Meeting, **Report**, ICAO Doc. DGP/1-WP/5, 27 January 1977, at 1-15 para. 2.11.

[442] Paragraph 11.1 of the Proposed Material, First Panel Meeting. The Panel later added manufacturer of dangerous goods, packaging manufacturer, packer, shipper's supervisory staff, operator's cargo sales and acceptance staff, personnel engaged in the ground handling, storage and loading of dangerous goods, passenger check-in staff and flight crew members. Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-VIII-2.

[443] ibid. at 2-23.

it would not be realistic for them to have to establish training programmes."[444]

All details were later removed from Chapter 10 of the Annex for incorporation in the Technical Instructions and the actual Chapter refers now to the provisions of the Technical Instructions.

M. Chapter 11. Compliance

States shall establish inspection, surveillance and enforcement procedures with a view to achieving compliance with its dangerous goods regulations. The paragraphs on cooperation between States for exchanging information about violations and penalties to be adopted in order to achieve compliance were originally Standards and were reduced later to Recommendations.

The Air Navigation Commission considered that it was not "appropriate for an ICAO specification" to deal with the "penalties" a State should adopt and suggested this be deleted.[445] Some Commissioners expressed the concern that

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[444] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations,** ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-96.

[445] ICAO State Letter SP 34/1-78/157.

it "went beyond the technical concerns of the Commission and even beyond the jurisdiction of ICAO."[446]

However, the IATA observer pointed out that the principal reason why ICAO became involved in this field was that IATA was not able to exert sufficient pressure on States to enforce compliance with these regulations.[447]

The proposed paragraph 11.4 said in a Standard: "Each Contracting State shall prescribe appropriate penalties for violations of its dangerous goods regulations." Following the suggestion of many States, the ANC decided to incorporate this concept in a Recommendation.[448]

Some Council members debated this Recommendation, some believing it was a penalty clause, interfering with State's sovereignty, and dealing with domestic procedure, stated that "it was not up to ICAO to tell States what to do

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[446] Air Navigation Commission, 88th Sess., Minutes of the 16th Meeting, 19 June 1978, ICAO Doc. AN Min. 88-16, 20 September 1978, at 75.

[447] ibid.

[448] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-99 to 101. Paragraph 11.3 now reads: "**Recommendation.**- Each Contracting State should take such measures as it may deem appropriate to achieve compliance with its dangerous goods regulations including the prescription of appropriate penalties for violations."

with regard to their national regulations." The Council adopted the Recommendation by a big majority nonetheless.[449]

Amendment No. 4 of 1989 adds a Note to the effect that the procedures established with a view to achieving compliance include, at a minimum, procedures allowing for the inspection of both documents and cargo and operators' practices as well as providing a method for the investigation of alleged violations.[450]

N. Chapter 12. Dangerous Goods Accident and Incident Reporting

Harm attributable to international dangerous goods consignments during handling at aerodromes was not covered by Annex 13 to the Chicago Convention on Aircraft Accident Investigation, since it was not within the definition of an aircraft accident.[451] The definition of "accident" reads as followed:

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[449] Council, 103rd Sess., Minutes of the 11th Meeting, 17 June 1981, ICAO Doc. 9347 C/1063, C-Min. 103/11, 1981, at 73 and 74 para. 11 to 13.

[450] Air Navigation Commission, 119th Sess., Minutes of the 14th Meeting, 17 november 1988, ICAO Doc. AN Min. 119-14, 8 December 1988, at 65 para. 19; **Amendment of Annex 18**, ICAO Doc. DP No. 1 to AN-WP/6228, 1 November 1988.

[451] Dangerous Goods Panel, 2nd Meeting, **Reporting of Dangerous Goods Occurrences**, ICAO Doc. DGP/2-WP/5, 3 May 1977, at 1 para. 1.2.

> "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..."

A new chapter to Annex 18 was suggested "to ensure a uniform procedure for the gathering and recording of information about international dangerous goods occurrences, compatible with Annex 13".[452] For the Panel, "the objective was to discover weaknesses in the provisions which could then be corrected, thus leading to increased safety."[453]

To ensure the free flow of information, the Panel suggested that "this information will be released by ICAO to States on the explicit understanding that it may be used for accident prevention purposes only and may not be used for the apportioning of blame or liability."[454]

Annex 18 definition of "Dangerous Goods Accident" says:

> "An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property damage."

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[452] ibid. at para. 2.1.

[453] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 1-12 para. 1.8.1.

[454] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 1-IX-2 para. 1.3.

Occurrences not resulting in fatal or serious injury are called "Dangerous Goods Incidents".[455] It is important to note that it includes "any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft".

The previously suggested definition for incident stated: "Evidence that the applicable regulations have not been complied with so that the safety of the aircraft or its occupants might have been jeopardized is also deemed to constitute a dangerous goods incident." This was added at the suggestion of some countries which considered as "incidents" cases of incorrect declarations of contents or quantities which might have jeopardized the safety of the aircraft.[456]

According to the Fifth Panel Meeting, many incidents occurred in relation to errors in the documentation which

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[455] "An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants is also deemed to constitute a dangerous goods incident."

[456] Air Navigation Commission, **Development of a New Annex Concerning the Safe Transport of Dangerous Goods by Air. Final Review of Annex Material in Light of Comments by States and International Organizations**, ICAO Doc. AN-WP/4945, 8 June 1979, App. B, at B-26 and B-27.

did not pose a danger to the aircraft, and their reporting would cause any reporting system to be "rapidly swamped with trivial reports." It was then decided to amend the definition to "any occurrence".[457]

O. Suggested Chapter on Radioactive Materials

The First Panel Meeting suggested having a separate chapter on radioactive materials with a Standard referring to the International Atomic Energy Agency (IAEA) Radioactive Materials Regulations, others to the separation between packages and people, films, animals, and to de-contamination. Because of the difficulties, no Standard on monitoring was agreed to.

Nonetheless, the Third Panel Meeting agreed that, "from the point of view of presentation in an Annex, radioactive materials should not in general be treated differently from any other dangerous goods. There was considered to be no real justification therefore for having a separate chapter in the Annex devoted to radioactive materials".[458] The Standards are found in their appropriate chapters.

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[457] Dangerous Goods Panel, 5th Meeting, **Report**, ICAO Doc. DGP/5-WP/22, 18 February 1981, at 1-13 at para. 1.8.2.

[458] Dangerous Goods Panel, 3rd Meeting, **Report**, ICAO Doc. DGP/3-WP/18, 12 May 1978, at 2-2 para. 2.2.3.

As far as the Technical Instructions are concerned, the Panel changed its mind and agreed to revert to the earlier arrangement, deciding that radioactive materials provisions should be collected into a separate section of the Instructions.[459] Nonetheless, it realised that a major change in the lay-out of the Technical Instructions would be undesirable only a few years after the initial introduction of this document and decided not to re-arrange the provisions on radioactive materials.[460]

VII. ADOPTION OF ANNEX 18 AND THE TECHNICAL INSTRUCTIONS

Article 54 (l) of the Chicago Convention provides that the Council adopt international standards and recommended practices, i.e. Annexes to the Convention. The Council discussed the adoption of Annex 18 at its 103rd Session on 11 May to 30 June 1981.[461]

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459 "Nevertheless supporters of the proposal felt that radioactive materials were a special case and their shipment was handled by a relatively small number of expert shippers." Dangerous Goods Panel, 9th Meeting, **Report**, ICAO Doc. DGP/9-WP/63, 1 March 1985, at 1-3 para. 1.2.3.1.

460 Dangerous Goods Panel, 10th Meeting, **Report**, ICAO Doc. DGP/10-WP/58, 7 March 1986, at 1-1 para. 1.2.2.

461 ICAO Doc. 9347-C/1063 C-Min. 103, discussing **1707th Report to the Council by the President of the Air Navigation Commission, Adoption of Annex 18 - The Safe Transport of Dangerous Goods by Air**, ICAO Doc. C-WP/7261, 31 March 1981.

A representative from Central America expressed concern that the implementation of these provisions might affect the precarious situation of airlines in certain countries which do not have the technical, practical or technological capability to comply with them. It happens that only one company can handle those products, the only one with the required technicians or equipment. It was feared that multinational companies would advise their clients to use only the specified carrier with the capability to transport its special product.[462]

There was a discussion on the Council's competence to adopt such an Annex. For one thing, as Article 35(a) and (b) was already covered this topic, and safe transport of goods was then under the sovereign right of States. Others said Article 35 only dealt with right of overflight, that it did not prevent adoption of multilateral regulations, the question having been raised at the adoption of Paragraph 3.5 of Annex 6. No State had filed any difference since 1948, and no State had questioned the validity of the adoption of the new SARPs in the last five years, during the studies on the future Annex 18.[463]

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[462] ibid., Minutes of the 1st Meeting, 11 May 1981, ICAO Doc. C-Min. 103/1, at 6 para. 9.

[463] ibid. at 7 para. 11.

After lengthy discussions, the Council approved Annex 18 entitled "The Safe Transport of Dangerous Goods by Air"

on 26 June[464] and the Technical Instructions on 29 June

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[464] Resolution of Adoption:
"THE COUNCIL

Acting in accordance with the Convention on International Civil Aviation, and particularly with the provisions of Articles 37, 54 and 90 thereof,

1. HEREBY ADOPTS on 26 June 1981 the International Standards and Recommended Practices contained in the document entitled "International Standards and Recommended Practices, The Safe Transport of Dangerous Goods by Air" which for convenience is designated Annex 18 to the Convention;

2. PRESCRIBES 1 January 1983 as the date upon which the said Annex shall become effective, except for any part thereof in respect of which majority of the Contracting States has registered disapproval with the Council before 26 October 1981;

3. RESOLVES that the said Annex or such parts thereof as have become effective shall become applicable on 1 January 1984;

4. DIRECTS THE SECRETARY GENERAL:

a) to notify each Contracting State immediately of the above action and immediately after 26 October 1981 of those parts of the Annex which will become effective on 1 January 1983;

b) to request each Contracting State:

1) to notify the Organization (in accordance with the obligation imposed by Article 38 of the Convention) of the differences that will exist on 1 January 1984 between its national regulations or practices and the provisions of the Standards in the Annex, such notification to be made before 1 June 1983 and thereafter to notify the Organization of any further differences that arise;

2) to notify the Organization before 1 June 1983 of the date or dates by which it will have complied with the provisions of the Standards in the Annex;

c) to invite each Contracting State to notify additionally any differences between its own practices and those established by the Recommended Practices, when the notification of such differences is important for the safety of air navigation, following the procedure specified in sub-paragraph b) above with respect to differences from Standards."

1981.[465]

Following its adoption, the 149 Contracting States were advised that the Annex 18 would become effective on 1 January 1983 and applicable on 1 January 1984, except for parts which a majority of States had registered disapproval of before 26 October 1981.

VIII. AMENDMENT TO ANNEX 6

The Council adopted the necessary amendments to Annex 6 on "Operation of Aircraft" to make it conform to Annex 18.

A. Paragraph 3.5

Paragraph 3.5 and associated Notes 1 and 2 contained references to the air transport of dangerous goods, which is covered by Annex 18, Note 1 on classes being covered by Paragraph 3.1 of Annex 18.

The Air Navigation Commission suggested that the following Standard replace Paragraph 3.5 of the Annex 6:

"3.5 Dangerous Goods shall not be carried in

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[465] ibid., Minutes of the 18th Meeting, ICAO Doc. C-Min. 103/18, at 134.

> an aeroplane unless the transport of such goods is in conformity with Annex 18."[466]

There was fear within the Council that this new Standard would make the Recommended Practices of Annex 18 obligatory. The majority thought that since it was a cross-reference, there was no reason why this provision should be a Standard. A Note would be sufficient. The Council then decided to put the reference in a simple Note:

> "3.5 Dangerous Goods - Note: Provisions for the carriage of dangerous goods are contained in Annex 18."[467]

B. Operation Manuals

There were also changes to Paragraphs 11.1.1-S and 11.1.2-NS of Annex 6 on Operation Manuals at sub-paragraph "s)" to reflect the contents of Paragraph 9.2 of Annex 18 on

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[466] Air Navigation Commission, **Amendment to Annex 6 for Alignment with Annex 18**, ICAO Doc. AN-WP/5372, 3 June 1982; Air Navigation, 100th Sess., Minutes of the 13th Meeting, 8 June 1982, ICAO Doc. AN Min. 100-13, 21 September 1982, at 82; 101st Sess., Minutes of the 6th Meeting, 30 September 1982, ICAO Doc. AN Min. 101-86, 15 November 1982, at 34; Council, **1778th Report to Council from the President of the Air Navigation Commission, Adoption of Amendment 16 to Annex 6, Part I Operation of Aircraft - International Commercial Aviation**, ICAO Doc. C-WP/7619, 8 March 1983.

[467] Council, 108th Sess., Minutes of the 15th Meeting, 29 March 1983, ICAO Doc. 9402-C/1073 C-Min. 108/15, 1983, at 100 para. 2 and 101.

Operation Manual Information and Instructions concerning the transport of dangerous goods.[468]

C. Training Programmes: an Accepted Note Becoming an Adopted Standard

With respect to training programmes, Paragraph 9.3 of Annex 6 specifies that training programmes be established for flight crew members. Since Chapter 10 of Annex 18 also deals with training programmes, the Commission considered the addition of a reference to that Chapter. As a matter of consistency, the reference on training programmes at Paragraph 9.3.1 of Annex 6 was also adopted as a Note.[469]

The Secretariat also suggested a new Standard, Paragraph 12.4 e) of Annex 6, on training of cabin attendants.[470] As members of the Panel remarked, "the

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[468] "An Operations Manual which may be issued... shall contain at least the following: s) information and instructions on the carriage of dangerous goods, including action to be taken in the event of an emergency;"

[469] Paragraph 9.3.1 Note 5: "Provisions for training in the transport of dangerous goods are contained in Annex 18."

[470] "An operator shall establish and maintain a training programme... which will ensure that each such attendant is: e) aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin and has completed the dangerous goods training programme required by Annex 18." Air Navigation Commission, **Amendment to Annex 6 for Alignment with Annex 18**, ICAO Doc. AN-WP/5372, 3 June 1982, App. A, at A-3.

Training Curricula in the Technical Instructions made no provision for cabin crew members" but such training could only be beneficial, since, in the past, alert crew members had removed dangerous goods that passengers had carried onto the aircraft.[471]

Since it did not want to make such an addition without prior consultation with States, the Air Navigation Commission did not accept this as a Standard, agreeing instead that a Note should be inserted under Paragraph 12.4, with cross-reference to Annex 18.[472]

When the Secretariat introduced a draft report to the Council for Amendment 16 of Annex 6, it was explained in the Introduction that it proposes the inclusion of a Note after Chapter 12 of the Annex 6,[473] that the Commission accepted that... the Note to para. 12.4 draw attention to Chapter 10 of Annex 18,[474] and mentions, in the nature and scope of the proposed amendment, "a Note in Chapter 12".[475] Nonetheless,

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[471] Dangerous Goods Panel, 6th Meeting, **Report of the Working Group Meeting Held in Amsterdam, 17 - 24 November** 1981, ICAO Doc. DGP/6-WP/2, 29 December 1981, at 8 para. 13.2.

[472] Air Navigation Commission, 101st Sess., Minutes of the 6th Meeting, 30 September 1982, ICAO Doc. 101-6, 15 November 1982, at 34 para. 36.

[473] Air Navigation Commission, **Approval of Draft Report to Council**, ICAO Doc. AN-WP/5471, 16 February 1983, at 3 para. 4 c).

[474] ibid. at 6 para. 1.5.2. c).

[475] ibid. at 12 para. 4.1 d) 3).

in the Text of Amendment 16 in Appendix A, Paragraph 12.4 e) is still a standard.

The Commission adopted this draft report, without commenting on this inconsistency in Chapter 12.[476] The Report submitted to the Council for adoption talked about "nature and scope of the proposed amendment", "a Note in Chapter 12".[477] Nonetheless, the Appendix A "Text of Amendment 16" did not reproduce a Note but the Standard of Para. 12.4 e).[478]

The Council accepted this Standard without comment, while the suggested Standard on Flight Crew Member Training Programmes of Para. 9.3.1. was specifically adopted as a Note in order to be consistent with the Note of Para. 3.5.[479]

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[476] Air Navigation Commission, **Approval of Draft Report to Council**, ICAO Doc. AN-WP/5471, 16 February 1983, approved at 102nd Sess., Minutes of the 13th Meeting, 7 March 1983, ICAO Doc. AN Min. 102-13, 3 May 1983, at 50.

[477] Council, **Adoption of Amendment 16 to Annex 6, Part I Operation of Aircraft - International Commercial Aviation**, ICAO Doc. C-WP/7619, 8 March 1983, at 11 para. 4.1 d) 3).

[478] ibid. at 27.

[479] Council, 108th Sess., Minutes of the 15th Meeting, 29 March 1983, ICAO Doc. 9416 C/1077, C-Min. 108-15, 1983, at 102.

IX. IMPLEMENTATION OF ANNEX 18 TO THE CHICAGO CONVENTION[480]

A. The Chicago Convention

According to the Chicago Convention, each contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulations and standards. To this end ICAO adopts and amends international standards (Article 37), relating to such matters as the safety, regularity and efficiency of air navigation.

These standards and amendments are adopted by the Council (Article 54 (l) and (m)). The Annexes are adopted by a vote of two-thirds (there is no specific mention of the proportion of votes necessary for amendments, so a normal

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[480] Assembly Resolution A26-8 Appendix A gives the following definitions to **Standard** and **Recommended Practices**:

> **Standard**: any specification for physical characteristics, configuration, material, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention; in the event of impossibility of compliance, notification to the Council is compulsory under Article 38 of the Convention;
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> **Recommended Practice**: any specification... the uniform application of which is recognized as desirable in the interest of safety, regularity or efficiency of international air navigation and to which Contracting States will endeavour to conform in accordance with the Convention.

majority might be applied)[481] are then submitted to each contracting State and become effective within three months (or such longer period of time as the Council may prescribe), unless a majority of the contracting States register their disapproval (Article 90).

1. Dates of Applicability

When ICAO was established, the Council adopted a resolution for States to continue to apply, in their national civil aviation practices, the Recommendations for SARPs endorsed by the Interim Council of PICAO and, insofar as they individually considered them admissible and appropriate, to introduce into their national practices the recommendations not yet formally acted upon by the Council.[482]

There was uncertainty in the Convention as to when a Standard would come into effect and when a State would have to comply with them or to send a notice of non-compliance.

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[481] B. Cheng, **The Law of International Air Transport** (London: Stevens & Sons, 1962) at 66. According to Buergenthal, "the ICAO Council has from its inception proceeded on the assumption that the adoption of an amendment to an Annex is governed by the same voting requirements that apply to Annexes." T. Buergenthal, **Law-making in the International Civil Aviation Organization** (Syracuse: Syracuse University Press, 1969) at 67.

[482] Council, 1st Sess., Minutes of the 5th Meeting, 20 June 1947, ICAO Doc. 4469-C/549, 1 July 1947, at 4.

Article 38 says that the State shall give immediate notice if it finds it impracticable to comply with the international SARPs or deems it necessary to adopt different regulations. Notice must be given within 60 days in case of amendments. Article 90 states that the Annex will become effective within three months after its submission to contracting States.[483]

The Council adopted another resolution on the delays between several different dates, the date of adoption, the date when the Annexes become effective and the date when the Annexes come into force.[484]

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[483] Or at the end of such longer period of time as the Council may prescribe, unless in the meantime a majority of the contracting States register their disapproval with the Council.

[484] "The Council resolves that it shall:
(1) Establish a date, normally ninety (90) days after the date of submission by the Council, after which States may no longer notify disapproval under Article 90.
(2) Establish a further date by which International Standards and Recommended Practices shall be applied by Contracting States. In establishing this date the Council shall take into consideration the problem involved in each instance, the comments of Contracting States, and the recommendations made by appropriate ICAO meetings.
(3) Establish a date prior to which States unable to comply are expected to give notification to that effect. This date shall be sufficiently in advance of the date set for application of the Standards to enable notification of non-compliance to reach other Contracting States, and to be circulated by Contracting States to those concerned." Council, 1st Sess., Minutes of the 8th Meeting, 1 July 1947, ICAO Doc. 4561-C/555, 7 July 1947, at 9.

In 1953, the Council adopted the actual wording dealing with these dates in the "Revised Form of Resolution of Adoption of an Annex",[485] which was reiterated in the resolution adopting Annex 18 on 26 June 1981.[486]

2. Adoption of International Standards and Practices

The international standards and practices are not automatically binding upon contracting States, which are not

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[485] Council, **Action of the Council Eighteen Session 13 January - 26 March 1953**, ICAO Doc. 7388-C/860, 1953, at 32.

[486] THE COUNCIL... 1. HEREBY ADOPTS on 26 June 1981 the International Standards and Recommended Practices contained in the document entitled "International Standards and Recommended Practices, The Safe Transport of Dangerous Goods by Air" which for convenience is designated Annex 18 to the Convention;
2. PRESCRIBES 1 January 1983 as the date upon which the said Annex shall become effective, except for any part thereof in respect of which majority of the Contracting States has registered disapproval with the Council before 26 October 1981;
3. RESOLVES that the said Annex or such parts thereof as have become effective shall become applicable on 1 January 1984...

under a formal obligation to adopt them[487] or to comply with them.[488]

The Convention provides that each contracting State undertake to keep their own regulations uniform, **to the greatest extent possible**, with those established by ICAO but over the high seas the rules in force are those established "under the Convention" (Article 12). If any State finds it impracticable to comply in all respects with any international standards or procedures, or to bring its regulations into full accord with any SARPs, or deems it necessary to adopt different ones, it shall notify ICAO immediately of the differences (Article 38). For an amendment, the State has 60 days to notify that it will not adopt the amendment in its regulations.

Even if, from a strictly legal point of view, any State which has not notified a difference should be deemed to be in full compliance with the Standard,[489] unfortunately

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[487] R. H. Mankiewicz, "L'Adoption des Annexes à la Convention de Chicago par le Conseil de l'Organisation de l'Aviation Civile Internationale" in **Beiträge zum internationalen Luftrecht Festschrift zu Ehren von Prof.Dr.jur. Alex Meyer** (Düsseldorf: Droste-Verlag: 1954) 82 at 93.

[488] B. Cheng, "Centrifugal Tendencies in Air Law" (1957) 10 Current Legal Problems 200 at 205. T. Buergenthal, op. cit., at 76.

[489] Some authors went even further in their interpretations. For example: "Les États qui ont ratifié la Convention ont aussi ratifié les annexes... Si les États ne font pas entendre leurs protestations à l'O.A.C.I. dans un

this is in practice a simplistic view: "the number of States providing the required information is rather small."[490]

The implementation of Standards and Recommended Practices has been an on-going problem at ICAO. In 1981, almost forty years after the adoption of the Chicago Convention, the ICAO Secretary General wrote that the "number of States that are able to keep pace with changes in annexes and PANS documents probably is of the order of 30 per cent of all Contracting States."[491]

When considering a 1950 paper on the lack of reporting differences, a Representative to the Council wondered if perhaps ICAO had not built on foundations of sand![492]

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certain délai, les modifications aux annexes s'incorporent immédiatement à la législation interne de chaque État." M. Le Goff, "Les Annexes Techniques à la Convention de Chicago" (1956) 19 Revue Générale de l'Air 146 at 153.

[490] Air Navigation Commission, **Long-term Policy on Annexes to the ICAO Convention - Notification of Differences**, ICAO Doc. AN-WP/5779, 11 July 1985, at 2.

[491] Council, 102nd Sess., **Implementation of International Standards and Recommended Practices (SARPS) and Notification of Differences**, ICAO Doc. C-WP/7265, 17 March 1981, at 2.

[492] "It was customary for the Council, when told that the Organization's achievements in the air transport field were negligible, to take refuge behind what were described as its fine achievements in the technical field. He must apologize to his colleagues for saying that the more he tried to assess the true influence of ICAO's technical work, the actual progress made towards the goal of uniformity, the

Not only the small and poor countries cannot keep a pace with development. In Canada, the ICAO Technical Instructions legally in force between 1985 and August 1989 were the 1985 edition of the Technical Instructions, since in the Canadian Regulations "Technical Instructions" was defined as "the 1985 Technical Instructions."[493] The subsequent editions did not have the force of law until 1 August 1989, after the Government enacted the 1989-1990 version of the Instructions.[494]

The IATA Restricted Articles Regulations encountered the same problem. Concern was expressed in 1959 that the changes to the Regulations should be made only when technically necessary or to clarify the application and use of the Regulations, since the Fourth Edition (effective 15 March 1959) had several hundred of changes and "[s]uch changes are not popular, either with the carriers or interested Governments."[495]

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more doubtful he became, and the more he wondered if the Organization had not built on foundations of sand to a much greater extent than it liked to believe." Council, 11th Sess. Part II, Minutes of the 3rd Meeting, 3 October 1950, ICAO Doc. 7057-3 C/817-3, 6 November 1950, at 35 para. 34.

493 SOR/85-609, Canada Gazette Part II, 10 July 1985, at 2982.

494 SOR/89-39, 27 December 1988, Can. Gaz. Part II, 18 January 1989, at 281.

495 **Report of Seventh Meeting IATA Permanent Working Group on Restricted Articles Zürich - Bürgenstock, April 28th-May 7th, 1959, at 1 para. M/3.**

In 1947, at the 1st Session of the Assembly, the Technical Commission submitted a resolution that stated that the implementation of SARPs "would be greatly hampered by frequent revisions in substance".[496]

Again in 1962, in a Statement of Continuing Assembly Policies,[497] the Assembly resolved that:

> "a high degree of stability in Standards and Recommended Practices to be maintained to enable Contracting States to achieve the necessary stability in their national regulations" and "amendments to be limited to those significant to the safety, regularity or efficiency of international air navigation and editorial amendments need to be kept to the essential minimum".[498]

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[496] "particularly when there has been insufficient time to determine by actual operation and test whether such changes are either desirable or necessary". Assembly, 1st Sess., Technical Commission, **Appendix "B" Resolution Framed by Commission No. 2 and Recommended for Adoption by the Assembly (Arising from Item 2(a) of the Commission's Agenda**, ICAO Doc. 4270 A1-TE/21, 19 May 1947, at 5.

[497] In Assembly Resolution A14-28, the Assembly directed "the Council to present to each succeeding Session of the Assembly for which a Technical Commission is established a draft statement of the continuing Assembly policies related specifically to air navigation as they exist at the commencement of that Assembly Session."

[498] Assembly, 14th Sess., **Resolutions Adopted by the Assembly and Index to Documentation**, Resolution A14-27 App. E, ICAO Doc. 8268 A14-P/20, 1 March 1963, at 57.

B. The 1944 Chicago Conference and Aftermath

While the Chicago Convention signed at the Chicago Conference contained many dispositions on SARPs, the Interim Agreement on International Civil Aviation, setting up a Provisional ICAO, also had a provision by which the Member States undertook, with respect to the different matters of Air Navigation, "to apply, as rapidly as possible, in their national civil aviation practices, the general recommendations of the International Civil Aviation Conference, convened in Chicago, November 1, 1944, and such recommendations as will be made through the continuing study of the Council."[499]

Many Resolutions of Committee II of the Conference on Technical Standards and Procedures dealt with the unification of Standards and Practices and their rapid adoption in national regulations.[500]

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[499] Article XIII Section 3.

[500] "...the States of the world, bearing in mind their present international obligations, are urged to accept these practices as ones toward which the national practices of the several States should be directed as far and as rapidly as may prove practicable" **Resolution Presented to the Conference on behalf of Committee II by the Acting Chairman and Reporting Delegate, Proceedings of the International Civil Aviation Conference**, vol. 1 (U.S. Government Printing Office, Washington: 1944) at 773. See Air Navigation Committee, 1st Sess., Minutes of the 3rd Meeting, 11 June 1947, ICAO Doc. 4501-AN/515, 3 July 1947, at 4.

1. Reporting of Non-compliance

When ICAO was established, the First Assembly adopted a Resolution directing that the Council establish procedures for the reporting of individual cases of alleged breaches of, or non-compliance with international SARPs.[501]

The representatives of the States believed that every State would automatically implement all the SARPs adopted by ICAO, since each State undertook in Article 38 and 12 of the Chicago Convention to collaborate in securing the highest practicable degree of uniformity and to keep their own regulations uniform to the greatest possible extent with the SARPs. In its directives to the Divisions in charge of drafting annexes, the Air Navigation Committee wrote about

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501 "NOW THEREFORE BE IT RESOLVED:

1. That the Council establish procedures for the reporting of individual cases of alleged breaches of or non-compliance with International Standards and Recommended Practices and Procedures placed into force under the Convention and national aeronautical regulations based thereon...
3. That the Assembly recommends that, to the greatest extent practicable and without prejudice to the rights of the State in which the breach or non-compliance took place, corrective action in the case of breach of or non-compliance with the Standards and Recommended Practices and Procedures and with national aeronautical rules and regulations should be taken by the State of registration, certification or jurisdiction of the aircraft, airman or ground organization respectively involved in such breach or non-compliance." Assembly, 1st Sess., **Resolutions Adopted by the First Assembly**, Resolution A1-30, ICAO Doc. 4411 A1-P/45, 3 June 1947, at 26 and 27.

the Committee and the Council's responsibility for adopting SARPs:

> "When the Council has adopted Standards or Recommended Practices, the Contracting States will make their practices accord with the International Standard or Recommended Practice unless they find it impracticable so to do... Each Contracting State, in finding that it is impracticable to make its own practice accord with a Standard or Recommended Practice adopted by ICAO, will only do so for exceptional reasons, and will arrive at its decision honestly and fairly on justifiable grounds."[502]

In practice, many SARPs do not have force of law in contracting States, so it would be hard for States to report breaches or non-compliance with them to ICAO.

The Technical Commission of the Second Assembly submitted that this Resolution went too far in discussing breaches and non-compliance "with the Standards and Recommended Practices and Procedures and with national aeronautical rules and regulations", as this involved the sovereignty of Contracting States. The Convention recognized, in Article 11, that the laws and regulations <u>of a Contracting State</u> were to be complied with by the aircraft within its territory, and that the only SARPs the

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[502] Air Navigation Committee, 3rd Sess., **Rules of Procedure for, and Directives to Divisions**, ICAO Doc. 5417-AN/626, 5 May 1948, at 11 para. 3.3.

States are obliged to enact were those dealing with the rules of air over the high seas.[503]

Therefore, the Assembly rescinded Resolution A1-30 and replaced it by a more appropriate one, Resolution A2-45.[504]

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[503] Assembly, 2nd Sess., Technical Commission, **Reporting of Breaches of, or Non-compliance with, Applicable Laws and Regulations**, ICAO Doc. 5216 A2-TE/2, 8 March 1948.

[504] "1. That the Council establish procedures for the reporting of individual cases of alleged breaches of, or non-compliance with, national aeronautical regulations giving consideration to the following suggestions:

(a) Reports of such alleged breaches or non-compliance by airmen, ground personnel and aircraft operating agencies of another Contracting State should be filed by the appropriate person having knowledge thereof directly with the authority concerned, if practicable, or with his national aeronautical authority which, when necessary, should transmit the reports to:
  (i) the State of registration of the aircraft or the State of certification of the airman; or
  (ii) the State having jurisdiction of the ground facility or of the ground personnel employed therein;

(b) Reports of breaches or non-compliance and reports of corrective action taken thereon by the receiving State may be exchanged directly between the appropriate aeronautical authorities in the States concerned;

2. That each Contracting State advise the Council as to the appropriate authority within its territory to which reports of breaches or non-compliance should be forwarded;

3. That each Contracting State, when dealing with reports of such breaches or non-compliance, observe the following principles:

(a) Corrective action in the case of breaches of or non-compliance with national aeronautical rules and regulations should be taken in the first instance by the Contracting State in which the alleged breach or non-compliance occurs.

(b) Contracting States, while maintaining their right to

Following this Resolution, in 1952 the Council reported to the Assembly that "after study of the difficulties involved in finding a practicable and effective procedure, the subject has been dropped, at least for the time being."[505]

Again in 1956, the Assembly resolved that the Council be directed "to ensure that States are urged to report to ICAO all cases of non-compliance with, or incomplete implementation of, Standards, Recommended Practices and Procedures".[506]

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take action under their national laws, should recognize that most violations are at present inadvertent.

(c) Repeated violations by one airman or frequent violations by a number of airmen of one State should be notified by the aeronautical authorities of the State in which they occur to the appropriate aeronautical authorities of the State of certification of the airmen concerned;

4. That Contracting States should undertake to adopt measures to ensure that airmen of their nationalities are familiar with the regulations of other Contracting States in which such airmen may fly and should ensure compliance with the rules in force over the high seas." Assembly, 2nd Sess., **Resolution A2-45, Resolutions and Recommendations of the Assembly 1st to 9th Sessions (1947-1955)**, ICAO Doc. 7670, 1956, at 97.

[505] Assembly, 7th Sess., **Report of the Council to the Assembly on the Activities of the Organization in 1952**, ICAO Doc. 7367 A7-P/1, 31 March 1953, Appendix 7 at 102.

[506] Assembly, 10th Sess., **Resolutions and Indexes to Documentation**, Resolution A10-27, ICAO Doc. 7707 A10-P/16, 10 August 1956, at 43 and 44. Superseded by A12-16, superseded by A14-27, by A15-8 App. G, by A16-19 App. G of 24 September 1968. Resolution A16-19 App. G only talked about the reporting of deficiencies in the implementation of regional plans, the users of the facilities and services

2. Differences

On 13 April 1948, the Council established a general form for resolutions adopting the Annexes, at the same time giving an interpretation to the word "differences" of Article 38.[507]

After the adoption of Annex 2 (Rules of the Air) on 16 April 1948, the United States requested the Council for an interpretation of the Annex,[508] ready to file their

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should report to the State(s) responsible and the State should report to ICAO any deficiencies. Assembly, 16th Sess., **Resolutions Adopted by the Assembly and Index to Documention**, ICAO Doc. 8779 A16-Res, 1969. Superseded by A18-13, A21-21, A22-18, A23-11, A24-7. Now superseded by A26-8 App. D of 9 October 1986: "the Council should urge Conntracting States to notify the Organization any differences... In the monitoring of the differences from SARPs and PANS, the Council should request reports from Contracting States that have not or have incompletely reported to the Organization the implementation of SARPs." Assembly, 26th Sess., **Resolution Adopted by the Assembly and Index to Documentation**, ICAO Doc. 9495 A26-RES, 1987.

[507] "WHEREAS the Council has understood that the "differences" to be notified pursuant to Article 38 should cover non-compliance in any respect with an international standard and any difference between any practice or regulation of a State and the practice established by an international standard, on all those subjects in respects of which ICAO may adopt standards under Article 37." Council, 3rd Sess., Minutes of the 22nd Meeting, 13 April 1948, ICAO Doc. 5701-C/672, 24 June 1948, at 2.

[508] Council, 5th Sess., **Review and Recommendation of Divisional Meetings and Action thereon Including Adoption of International Standards and Recommended Practices**, ICAO Doc. C-WP/29, 21 September 1948, at 2.

"formal disapproval". The Council requested the Legal Bureau's opinion.[509]

According to the Legal Bureau, if it was too late to submit "disapproval" to Annex 2, the Council might consider if its "understanding" of "difference" includes the possibility of a middle ground between full compliance and non-compliance. The Council used the expression "non-compliance in any respect", which "would appear more reasonably to be construed as meaning, non-compliance in matters of substance."[510]

When the Council received notification of differences from the Annexes, representatives recommended these differences be appended to the Annexes, and be referred to the Air Navigation Committee to consider future dispositions of them.[511]

At the Air Navigation Commission (replacing the Committee in 1949) meeting, the President of the Council stated that "it was unsafe to assume that, because a State notified no differences - did not even reply - that it had

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[509] Council, 5th Sess., Minutes of the 7th Meeting, 24 September 1948, ICAO Doc. 6195-C/700, 13 October 1948, at 8.

[510] Council, 5th Sess., **Review of Recommendations of Divisional Meetings and Action Thereon Including Adoption of International Standards and Recommended Practices**, ICAO Doc. C-WP/38, 29 September 1948, at 4 para. 16.

[511] Council, 5th Sess., Minutes of the 22nd Meeting, 16 November 1948, ICAO Doc. 6318-C/725, 7 December 1948, at 15.

accepted the Annex in toto. It might overlooked its obligation under Article 38."[512]

There was a debate in the Commission as to whether there was an obligation under Article 38 to notify ICAO of any national regulations made optional under an Annex, whether the differences were broad or only with respect to minute details. The Chief of the Legal Bureau stated there were three kinds of differences, all of which should be notified to the Organization.[513] The Commission formed a working group to study the question.[514] The latter suggested that States file their differences in distinguishing between three categories: "deviations", "discretionary regulations and practices" and "additional regulations and practices",[515] since "it should not be

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[512] Air Navigation Commission, 1st Sess., Minutes of the 8th Meeting, 17 February 1949, ICAO Doc. 6595-AN/776, 4 March 1949, at 5 para. 30.

[513] "Those between one national rule and the equivalent provision of the Annex; Additional rules to the provisions of the Annex; and The rules a State had adopted where the Annex made optional provisions." ibid. at 5 para. 27.

[514] Air Navigation Commission, 1st Sess., Minutes of the 14th Meeting, 28 February 1949, ICAO Doc. 6639-AN/784, 16 March 1949, at 2 and 3.

[515] "Deviations": departures of the national regulations or practices of your Government from any Standard or part of a Standard in the Annex;

"Discretionary regulations and practices": those regulations enacted by the Government pursuant to the provisions of the annex that leave such regulations to the choice or discretion of the Government;

"Additional regulations and practices": regulations

implied from Article 38 that differences arise only when national laws and regulations depart from any Standards or from the part of a Standard in an Annex."[516]

Pursuing its study at the Commission's request,[517] the working group considered "that the presumption of compliance when no differences were reported was unsound, and that the lack of information regarding the extent of compliance on the part of different States seriously handicapped the Organization in its efforts to disseminate differences effectively."[518]

The working group concluded that the reporting of differences should be limited to "significant" differences, i.e., those likely to affect the safety or regularity of

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enacted by the Government in regard to matters that are Recommended Practices in the Annex or that are complementary to any of the provisions of the Annex or that, not being referred to in the Annex, are related to its provisions and have been or are to be promulgated by the Government in the interests of safety and efficiency of air navigation. Air Navigation Commission, 2nd Sess., **Implications of "Differences" Notified by States between National Practices and International Standards Contained in Annexes to the Convention**, ICAO Doc. AN-WP/265, 21 September 1949, at 1 and 2.

[516] ibid. at 7.

[517] Air Navigation Commission, 2nd Sess., Minutes of the 19th Meeting, 14 October 1949, ICAO Doc. AN-WP/MIN II-19, 21 November 1949, at 104.

[518] Air Navigation Commission, 4th Sess., **Report of the Working Group on Principles Governing the Reporting of "Differences" from ICAO Standards Practices and Procedures**, ICAO Doc. AN-WP/419, 10 May 1950, at 1.

international air navigation,[519] and suggested that the form of resolution for the adoption of new annexes state at the beginning in the "whereas" that, in the opinion of the Council, differences meant "significant "differences", the knowledge of which is essential to the safety or regularity of international air navigation."[520]

The Commission then recommended to the Council to insert a clause in the future annexes, "to the effect that States notify ICAO of the extent to which they intend to implement the provisions of the Annex."[521]

This position was debated in the Council. According to one Representative, "to suggest that there could be deviations from Standards which would not have grave consequences was to imply that there was material in the Annexes which was not essential to safety and

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519 "It early reached the conclusion that the basis for reporting differences should be practicability of application rather than the extreme requirements established by legal interpretation of that Article [38]." ibid.

520 ibid. at 14.

521 "The Commission considered, however, that presumption of compliance with an Annex when, in fact, the provisions of that Annex might not have been implemented would not be realistic and that, when States are notified of the adoption of an Annex, they should be invited to inform the Organization not only of any differences between their national practices and the Standards contained in the Annex but also of the extent to which they intend to implement the provisions of the Annex." Council, 10th Sess., **Effect of Deviations by Contracting States from International Standards and Reservations to Regional Air Navigation Plans,** ICAO Doc. C-WP/650, 15 May 1950, at 4 para. 12.

regularity."[522] Nonetheless, the majority considered that it would be too much a burden to report every single deviation from the Standards. The Council adopted the following text, in addition to criteria to be used in determining reportable differences:[523]

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[522] Council, 11th Sess. Part II, Minutes of the 3rd Meeting, 3 October 1950, ICAO Doc. 7057-3 C/817-3, 6 November 1950, at 35 para. 34.

[523] Criteria for Standards:

"i) When the national regulations of a Contracting State affect the operation of aircraft of other Contracting States in and above its territory

a) by imposing an obligation within the scope of an Annex which is not covered by an ICAO Standard;

b) by imposing an obligation different in character* from that of the corresponding ICAO Standard;

c) by being more exacting than the corresponding ICAO Standard;

d) by being more less protective than the corresponding ICAO Standard.

ii) When the national regulations of a Contracting State applicable to its aircraft and their maintenance, as well as to aircrew personnel, engaged in international air operations over the territory of another Contracting State

a) are different in character* from that of the corresponding ICAO Standard;

b) are less protective than the corresponding ICAO Standard.

iii) When the facilities or services provided by a Contracting State for international air navigation

a) impose an obligation or requirement for safety additional to any that may be imposed by the corresponding ICAO Standard;

b) while not imposing an additional obligation differ in principle, type or system from the corresponding ICAO Standard;

c) are less protective than the corresponding ICAO Standard.

* The expression "different in character" in (i)(b) and (ii)(a) would be applied to a national regulation which achieves by other means the same objective as that of the corresponding ICAO Standard and so cannot be classified under (i)(c) or (d) and (ii)(b)."

> "That Contracting States, when notifying ICAO of the differences between their national regulations and practices and the international Standards contained in the Annex, in compliance with Article 38 of the Convention, be requested to give particular attention to those differences knowledge of which is essential to the safety or regularity of international air navigation."[524]

Nonetheless, in 1954 the Assembly "resolved" that the "Council initiate a more effective and simplified programme with respect to the reporting by States of differences" in order to be better informed of the actual state of implementation.[525]

To this end, the Council adopted a simplified procedure for determining reportable differences.[526] The criteria adopted in 1950 had proved to be difficult to apply, since it was left to the national administrations to decide which criteria were applicable to its regulations,

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For Recommended Practices and Specifications, Procedures and Supplementary Procedures, Contracting States are invited to notify the differences when its knowledge is important for the safety of air navigation, using the above criteria. Council, **Proceedings of the Council 11th Session 27 September - 15 December 1950 Part II**, ICAO Doc. 7188-C/828, 1953, at 32 to 34.

[524] Council, 11th Sess. Part II, Minutes of the 12th Meeting, 21 November 1950, ICAO Doc. 7057-12 C/817-12, 13 December 1950, at 167 para. 28 and 160 para. 1.

[525] Assembly, 7th Sess., **Resolutions and Recommendations of the Assembly 1st to 9th Sessions (1947-1955)**, Resolution A7-9, ICAO Doc. 7670, 1956, at 208 and 209.

[526] Council, 21st Sess., Minutes of the 8th Meeting, 12 March 1954, ICAO Doc. 7464-8 C/871-8, 24 March 1954, at 96 para. 5.

and how the criteria should apply.[527] A more simplified procedure which provided a "Form of Notification"[528] had been introduced by the Air Navigation Commission in 1956[529] following Assembly Resolution A10-29 directing the Council to issue promptly notifications as supplements, to approach representatives on the Council, to write to States not represented on the Council which have not fully reported, etc.[530]

The Air Navigation Commission agreed on the measures taken by the Secretariat to stimulate States to report differences.[531] Letters were sent to the States, asking them if they would incorporate the SARPs into their national regulations and if compliance with International SARPs would contravene any of their national regulations. This led to

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[527] ibid. at 103 para. 38.

[528] Air Navigation Commission, **Report of Working Group on Annexes on Assembly Resolution A10-29**, ICAO Doc. AN-WP/1554, 26 November 1956, at 2.

[529] Council, 29th Sess., Minutes of the 14th Meeting, 6 December 1956, ICAO Doc. 7739-14 C/894-14, 8 February 1957, at 174 para. 19.

[530] Assembly, 10th Sess., **Resolutions and Indexes to Documentation**, Resolution A10-29, ICAO Doc. 7707 A10-P/16, 10 August 1956, at 45 and 46.

[531] Air Navigation Commission, 23rd Sess., Minutes of the 8th Meeting, 18 October 1956, ICAO Doc. AN-WP/MIN XXIII-8, 29 October 1956, at 52.

improvements in notifications.[532] In 1952, 67.1% had sent no information, while by August 1958 only 31.8% were in this situation.[533] The Council agreed that the Secretary General continue to apply, on a regular basis, the methods to improve the reporting of differences.[534]

3. Implementation

For States, the lack of notification is not proof of implementation. There is often also the problem of a lack of means to implement the SARPs. In some countries, the establishment of efficient air services is more urgent than the training necessary to properly understand the Technical Instructions on the Safe Transport of Dangerous Goods by Air.

In 1956, the Assembly adopted Resolution A10-27

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[532] Air Navigation Commission, **Consideration of Notification of Differences Received as a Result of Action on Assembly Resolution A10-29**, ICAO Doc. AN-WP/1818, 28 April 1958.

[533] Council, 35th Sess., **Implementation of Assembly Resolution A10-29 - Reporting of Differences by Contracting States**, ICAO Doc. C-WP/2814, 21 November 1958, at 3.

[534] Council, 35th Sess., Minutes of the 9th Meeting, 28 November 1958, ICAO Doc. 7934-9 C/912-9, 18 February 1959, at 137.

which stated that all available means[535] should be used to assist States to implement the SARPs, and that to this end the Council should carry out a practical analysis of the difficulties experienced by States.

The Air Navigation Commission felt there was no justification for carrying out a practical analysis of the difficulties experienced by States in implementing the SARPs as the most effective means for fostering implementation was education, not regulation. Efforts should be concentrated upon obtaining satisfactory notification of differences.[536]

The Assembly repeated Resolution A10-27 in Resolution A12-16,[537] by deleting the need for a practical analysis, and adopted a Statement of Continuing Assembly Policies in

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[535] "including the United Nations Programme of Technical Assistance, technical advice and expert assistance from the Regional Offices, and the training activities of the Air Navigation Bureau". The Resolution also directed the Council to ensure that States were urged to report all cases of non-compliance or incomplete implementation. Assembly, 10th Sess., **Resolutions and Indexes to Documentation**, Resolution A10-27, ICAO Doc. 7707 A10-P/16, 10 August 1956, at 43 and 44.

[536] Air Navigation Commission, 24th Sess., Minutes of the 15th Meeting, 19 March 1957, ICAO Doc. AN-WP/MIN XXIV-15, 1 April 1957, at 87.

[537] Assembly, 12th Sess., **Resolutions Adopted by the Assembly and Index to Documentation**, ICAO Doc. 7998 A12-P/3, 1 September 1959, at 28; Technical Commission, **Implementation of Standards and Recommended Practices (SARPS) and Procedures for Air Navigation Services (PANS)**, ICAO Doc. A12-WP/15 TE/6, 9 April 1959.

Resolution A14-27 Appendix G on the implementation of SARPs, which repeated the provisions previously adopted on notification of differences.[538]

The Assembly also invited the Council to note that some weakness remained in implementation.[539] One of the difficulties identified by the Air Navigation Commission was the creation and administration of national regulations.[540] Implementation of these regulations depended upon administrative decisions based on expert knowledge or guidance, on the exercise of considerable executive power and on the support of detailed aviation legislation. The Commission sent a report to the Council on measures taken and plans for the future, aimed at meeting the objectives of the Assembly Resolution.[541]

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[538] Assembly, 14th Sess., **Resolutions Adopted by the Assembly and Index to Documentation**, Resolution A14-27 App. G, ICAO Doc. 8268 A14-P/20, 1 March 1963, at 59.

[539] Assembly, 14th Sess., **Resolutions Adopted by the Assembly and Index to Documentation**, Resolution A14-21, ICAO Doc. 8268 A14-P/20, 1 March 1963, at 45.

[540] Assembly, 14th Sess., Air Navigation Commission, Working Group of the Whole, **Examination of the Technical Difficulties which Have Impeded the Satisfactory Implementation of SARPS and PANS and of Measures that Should Be Taken by ICAO towards Overcoming these Difficulties**, ICAO Doc. A14-WP/51 TE/2, 11 June 1962, at 2.

[541] Council, 50th Sess., **Possibility of Encouraging a more Vigourous Programme in the Implementation of SARPS and PANS**, ICAO Doc. C-WP/3912, 5 December 1963. The Commission replaced measures "adequate to meet" by "aimed at meeting", following the proposition of a Commissioner who believed that "it would be many years before the action that ICAO

During the following Assembly of 1965, the Technical Commission discussed the fact that the information obtained mainly through missions of Regional Offices and provided to the Council, "shows that a great many States have been unable to keep the operating instructions used in their installations amended to accord with the amendments adopted or approved by the Council."[542]

"In principle", there were two ways to improve this situation: (1) to increase the capability of national administrations to take the necessary action on all amendments, but "it would be unrealistic to expect an early major improvement in the capability of administrations to handle the amendments",[543] or (2) to decrease the frequency

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could take would be adequate to meet the goal of Assembly Resolution A14-21". Air Navigation Commission, 44th Sess., Minutes of the 26th Meeting, 4 December 1963, ICAO Doc. AN-WP/Min. XLIV-26, 31 January 1964, at 240 para. 50.

[542] 25% of the Contracting States were maintaining the operating instructions essentially in step with the ICAO documents, 25% used instructions that are 1 to 3 years out of date and 50% were even further out of date. Assembly, 15th Sess., Technical Commission, **Review of the Practices Concerning the Fostering of Implementation of SARPS and PANS with Particular Reference to those not directly Associated with the Implementation of Regional Plans**, ICAO Doc. A15-WP/28 TE/5, 31 March 1965, at 2 para. 6.

[543] ibid. at 3 para. 9 and 9.1; "the difficulty primarily stemmed from a shortage of trained personnel through a large part of the world and the available personnel were fully occupied in meeting day-to-day requirements of the operating services." **Minutes of the Technical Commission**, 7th Meeting, 30 June 1965, ICAO Doc. A15-WP/114 Min. TE/7, 1965, at 56.

and number of amendments. The "obvious result of a drastic curtailment in amendments would, however, be that the basic ICAO documents would lag further and further behind the most advanced developments and techniques. This would be unacceptable".[544] For example, Annex 10 had been amended 4 times in 1963-1964! In some European countries, these difficulties were magnified where the working language is not one of the ICAO official languages and translation was necessary.[545]

According to one Delegate, the Annexes had a similar status to the Chicago Convention and if they were limited to fundamental principles, this would reduce the number of amendments and would facilitate their incorporation into national legislation. Then amendments would be restricted to matters of high legal status. Details could be accommodated in more appropriate documents such as the PANS. While some believed that this would not alleviate all the problems,[546] the Technical Commission reported to the

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[544] ibid. at 9 and 9.2.

[545] Assembly, 15th Sess., Technical Commission, **Review of the Practices Concerning the Fostering of Implementation of SARPS and PANS, with Particular Reference to those not directly Associated with the Implementation of Regional Plans**, ICAO Doc. A15-WP/66 TE/19 - Item 20, 17 June 1965, at 1.

[546] ibid. at 57 para. 24 and 25 and 58 para. 30.

Assembly that there was substantial support for this idea.[547]

Since this was a complex problem, the Assembly resolved in Resolution A15-12 that the Council should seek measures to facilitate the task of States in instituting current ICAO practices and procedures at their operating installations, and it was held that the Council "may deviate from present policies and practices relative to the content, applicability and amendment of the Annexes and PANS, other than the provisions of the Convention, if it finds such deviation unavoidable in order to accomplish the objective".[548]

Since it would be a long and difficult task to revise the Annexes and PANS to make then more suitable for direct use at operating stations, the Air Navigation Commission suggested the preparation of a series of ICAO operational manuals for direct use at operating stations or to provide guidance material for States which would help them to issue their own operating instructions,[549] while considering the

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[547] Assembly, 15th Sess., **Report of the Technical Commission**, ICAO Doc. 8524 A15-TE/52, 1965, at 36 para. 47.

[548] Assembly, 15th Sess., **Resolutions Adopted by the Assembly and Index to Documentation**, ICAO Doc. 8528 A15-P/6, 1965, at 57

[549] Air Navigation Commission, **Measures for Facilitating the Implementation of SARPS and PANS**, ICAO Doc. AN-WP/3304, 4 May 1967, at 2 para. 4.2 and 4.3; 55th Sess., Minutes of the 6th Meeting, 16 May 1967, ICAO Doc. AN-WP/Min. LV-6, 6

possibility of improving the intelligibility of ICAO specifications.[550]

This was only a partial measure towards improving implementation, as States in need of assistance would not have the necessary capacity to do the job.[551]

Other measures include a standing instruction to be mindful of the need to restrict the contents of the Annexes and PANS,[552] instructions as to the transference of guidance material into Manuals, the consolidation of related SARPS and PANS,[553] the standardization of presentation of Annexes, and the improvement of the language from "obscurity, complication or ambiguity" into a clear, simple and

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June 1967, at 66.

[550] ibid., Doc. AN-WP/3304 at 4 para. 13.1; Doc. AN-WP/Min. LV-6 at 67 para. 43. The first manual was an Air Traffic Services Reference Manual.

[551] Air Navigation Commission, 57th Sess., Minutes of the 11th Meeting, 21 March 1968, ICAO Doc. AN-WP/Min. LVII-11, 31 May 1968, at 103 and 104.

[552] "Guidance material should be included in Annexes and PANS only if that is essential for the understanding or application of the provisions of those documents or if there is no existing associated document where the guidance material can be placed and preparation of a new associated document would not be justified..." Air Navigation Commission, **Review of Policies Guiding the Development of SARPS and PANS, Main Policies and Practices Governing the Development of Annexes and PANS**, ICAO Doc. AN-WP/4102 App. B, 29 November 1972.

[553] Air Navigation Commission, **Review of Policies Guiding the Development of SARPS and PANS**, ICAO Doc. AN-WP/4102, 29 November 1972, at 2 and 3.

straightforward one, a deliberate effort to make Annexes suitable for direct incorporation into national regulations and, where appropriate, suitable for use by operating personnel,[554] as well as the production of new manuals and efforts through Regional Offices and Technical Assistance missions.[555]

As to transferring Annex material into other documents, it was pointed out in the Council that this was endangering the status of the Annex and "many States did not like to see the status of Annex specifications lowered".[556]

As to the production of current manuals, "everyone was aware" of the difficulties encountered by the Secretariat in attempting to maintain currency in technical

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554 ibid. at 4.

555 Air Navigation Commission, ANC Working Group on Measures to Facilitate Implementation of SARPS and PANS, **Measures to Facilitate the Implementation of SARPS and PANS**, ICAO Doc. AN-WP/3742, 13 July 1970, discussed at 65th Sess., Minutes of the 1st Meeting, 22 September 1970, ICAO Doc. AN Min. LXV-1, 20 October 1970, at 3; **Review of Policies Guiding the Development of SARPS and PANS**, ICAO Doc. AN-WP/4152, 16 March 1973, discussed at 72th Sess., Minutes of the 17th Meeting, 28 March 1973, ICAO Doc. AN Min. 72-17, 8 May 1973, at 163.

556 Council, 71st Sess., Minutes of the 20th Meeting, 30 November 1970, ICAO Doc. 8912 C/997, C-Min. LXXI/20, 25 March 1971, at 506 para. 6.

manuals.[557] If this was a problem in 1972, one can imagine what it would have been when ICAO encountered its financial crisis in 1986, obliging the Organization to cut back its spending.

C. Need for a Further Improvement

In 1979, in examining the working programme, some Representatives to the Council remarked that the status of the implementation of Annexes was not known due to the lack of information from States to ICAO. One Representative pointed out that "Annex provisions were adopted by a two-thirds majority vote in the Council and that perhaps this was not representative of a majority of States."[558] The Council asked the Secretary General to prepare a study on methods for improving implementation.

The study reported that only 30 % of States were able to keep a pace with changes in Annexes and PANS document, many lagging behind administratively or beset by other

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[557] Air Navigation Commission, 71st Sess., Minutes of the 17th Meeting, 6 December 1972, ICAO Doc. AN Min. 71-17, 23 January 1973, at 150 para. 23.

[558] Council, 96th Sess., Minutes of the 15th Meeting, 29 March 1979, ICAO Doc. 9264 C/1049, C-Min. 96/15, 1979, at 98 para. 9.

difficulties.[559] These problems require the exertion of greater ICAO efforts. However, it was stated that "achieving the required improvements will be a slow process and ultimately will depend largely on the effectiveness of efforts that the States themselves will be able to make."[560] As to the reporting of differences under Article 38, it was still less than satisfactory and "history would suggest that

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[559] Council, 102nd Sess., **Implementation of International Standards and Recommended Practices (SARPS) and Notification of Differences**, ICAO Doc. C-WP/7265, 17 March 1981, at 2. "Of the many factors which contribute to this situation, the most significant are:

a) lack of funding support and/or weaknesses in internal budgetary processes;
b) shortage of qualified technical, administrative and executive personnel;
c) ineffective organizational structures or intra-administrative difficulties such as inadequate co-ordination among national departments;
d) absence of suitable administrative machinery for the processing and promulgation of required changes in national regulations;
e) lack of effective training facilities to remedy b) above;
f) inadequate conditions of employment often manifested in relatively low salary levels and lack of career development prospects which result in frequent staff changes or turnover and low staff morale;
g) a relatively low national priority given to aviation requirements;
h) language translation problems which militate against implementation of new or updated annex and PANS provisions which need to be translated into national regulations in non-ICAO languages; and
i) slowness of postal services or difficulties with distribution arrangements for ICAO documents and correspondence within national administrations." ibid. at 3.

[560] ibid. at 3 para. 3.3.

the situation will persist and the problem is virtually as old as ICAO itself."[561]

Noting the various measures taking in the past, the Council agreed that there was a need for additional ones and requested the Air Navigation Commission to study the advisability of taking further ones to regulate the frequency of amendments.[562]

1. Propositions on the Frequency of Amendments

The Secretariat foresaw that the technical field was progressing so rapidly and economic pressures demanded improved efficiency, so frequent amendments were necessary. Nonetheless, it was felt that it could be possible to exercise a stricter control over the frequency of amendments.[563]

The Commission agreed. There was a suggestion to institute a two-priority system separating amendments

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[561] ibid. at 8 para. 6.2. The notifications received in respect of the individual annexes as amended by the latest amendments ranged from 15 to 58%, with only two annexes having more than 45%; at 9 para. 6.4.

[562] Council, 102nd Sess., Minutes of the 15th Meeting, 27 March 1981, ICAO Doc. 9339-C/1061 C-Min. 102-15, 1981, at 101 para. 5.

[563] Air Navigation Commission, **Practices Concerning the Processing of Annex and PANS Amendments and the Publication of Information on Notification of Differences**, ICAO Doc. AN-WP/5428, 18 November 1982.

directly affecting flight safety from those required to maintain the currency and uniformity of annexes.[564]

While the Council noted the arrangements made by the Commission to coordinate the frequency of future annexes and amendments, a Representative expressed concern that the suggestions of the Commission did not match the problems regarding proliferation of amendments experienced by States. After forty years of existence, the regulatory material of the Annexes should be more or less stable.[565]

a. Two-priority System

A Commissioner suggested amending the Assembly Resolution on the formulation of SARPS (A23-11 Appendix A) along these lines: amendments which are urgently required an immediately affect the safety of international civil aviation world-wide should become effective at the next date of applicability while amendments which are necessary for the continued development of safety in international civil

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[564] Air Navigation Commission, 101st Sess., Minutes of the 19th Meeting, 25 November 1982, ICAO Doc. AN Min. 101-19, 26 January 1983, at 114 para. 12.

[565] Council, 108th Sess., Minutes of the 1st Meeting, 9 February 1983, ICAO Doc. 9402 C/1073, C-Min. 108-1, 1983, at 5 and 6.

aviation world-wide should become applicable on a three year cycle.[566]

This concept was presented to the Council[567] which adopted it on a trial basis.[568] The Commission recommended amendment to Assembly Resolution A23-11, Appendix A on formulation of SARPS by introducing formally the one year-three year system, but the Council found it premature to submit this to the following Assembly.[569] Many Delegates to the Technical Commission of the Assembly looked forward to this trial period and to further progress reports.[570] In 1986, the Technical Commission agreed to continue the trial

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[566] Air Navigation Commission, **Need for Reducing the Frequency of Annex and PANS Amendments**, ICAO Doc. AN-WP/5495, 22 April 1983, at 2. Proposition adopted at the 103rd Sess., Minutes of the 11th Meeting, 14 June 1983, ICAO Doc. AN Min. 103-11, 18 October 1983, at 46, approving **Need for Reducing the Frequency of Annex and PANS Amendments**, ICAO Doc. AN-WP/5512, 7 June 1983.

[567] Council, 109th Sess., **Draft Report to the 24th Session of the Assembly on the Need for Reducing the Frequency and Volume of Annex and Procedures for Air Navigation Services (PANS) Amendments**, ICAO Doc. C-WP/7677, 14 June 1983.

[568] Council, 109th Sess., Minutes of the 17th Meeting, 27 June 1983, ICAO Doc. 9406 C/1075, C-Min. 109/17, 1983, at 107 para. 8. Submitted to the Assembly, 24th Sess., **Need for Reducing the Frequency and Volume of Annex and Procedures for Air Navigation Services (PANS) Amendments**, ICAO Doc. A24-WP/26 TE/4, 30 June 1983.

[569] Council, ibid. at 105 para. 4.

[570] Assembly, 24th Sess., Technical Commission, **Report and Minutes**, Minutes of the 8th Meeting, 3 October 1983, ICAO Doc. 9410 A24-TE, A24-Min. TE/8, 1984, at 87 para. 5.

period and to look at its results at the 1989 Assembly.[571] This is on the provisional agenda of the 1989 Assembly.[572]

The Council adopted a ten-year "suggested schedule for amendment of Annexes and PANS", showing dates of projected amendments and their applicability,[573] to assist administrations in organizing their workload.[574]

At the Air Navigation Commission's request,[575] on 5 August 1988 the Secretary General sent a State Letter asking States if the new "three-year" practice enabled their Administration to facilitate the processing of corresponding national regulations, if it enhances implementation of

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[571] Assembly, 26th Sess., Technical Commission, **Report and Minutes**, ICAO Doc. 9490 A26-TE, 1987, at 39 para. 15.2:3 and Minutes of the 5th Meeting, 2 October 1986, A26-Min. TE/5, at 77.

[572] Council, 124th Sess., **Draft Provisional Agenda for the 27th Session of the Assembly**, item T1.2, ICAO Doc. C-WP/8623, 31 May 1988, at 4.

[573] Council, 117th Sess., **Assembly Documentation - Long-term Policy on Amendments to Annexes and Procedures for Air Navigation Services (PANS)**, ICAO Doc. C-WP/8203, 20 February 1986.

[574] Council, 117th Sess., Minutes of the 21st Meeting, 26 March 1986, ICAO Doc. 9484 C/1093, C-Min. 117/21, 1986, at 196.

[575] Air Navigation Commission, 113th Sess., Minutes of the 8th Meeting, 13 November 1986, ICAO Doc. AN Min. 113-8, 2 December 1986, at 38 and 39.

technical specifications in a timely manner and if the practice should continue as a standing practice.[576]

The response received indicated a massive support for the application of the new practice.[577]

2. Interpretation of Article 38

In 1986, the Air Navigation Commission submitted a report on the notification of differences to the Council, in which it gave its interpretation of Article 38:

> "From the strictly legal point of view, any State which has not notified a difference under Article 38 is presumed to be in full compliance with a Standard; any other interpretation would be misleading at best, possibly inaccurate, and would render Article 38 meaningless."[578]

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[576] State Letter dated 5 August 1988, **Need to Reduce the Frequency of Amendments to Annexes and Procedures for Air Navigation Services (PANS)**, ICAO Doc. AN 1/1.3-88/75.

[577] Air Navigation Commission, **Need to Reduce the Frequency of Amendments to Annexes and PANS, Approval of a Draft Report to the Assembly**, ICAO Doc. AN-WP/6291, 31 January 1989, at 3 para. 2.2.

[578] Council, 117th Sess., **Long-term Policy on Annexes to the ICAO Convention - Notification of Differences from SARPS**, ICAO Doc. C-WP/8207, 5 March 1986, at 2 para. 3.1. For previous papers, see Air Navigation Commission, **Revision of RAC Documents and the Need to Define a Long-term Policy on Annexes to the ICAO Convention**, ICAO Doc. AN-WP/5553, 25 October 1983; **Long-term Policy on Annexes to the ICAO Convention**, ICAO Doc. AN-WP/5682, 7 December 1984 and ICAO Doc. AN-WP/5779, 11 July 1985. According to Wijesinha, who found that Article 38 was "another example of the several instances of inelegant and rather non-legal draftsmanship in the Chicago Convention", Dr. Pépin would have said that

Some members of the Secretariat felt that if an unnotified difference led to some catastrophic consequences, any court seized with the action would find that the State which did not notify the difference was deemed to be in compliance, not only vis-à-vis ICAO but also vis-à-vis third States.[579] This opinion was expressed by Bin Cheng in 1957.[580] With respect, the author does not share this opinion.

a. The Chicago Convention

No where in the Chicago Convention is it written that in absence of notification or after X months without notification, the State shall have the legal duty or shall be deemed to be in compliance with the international

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"according to Dr. Edward Warner, this Article was finalized almost in a state of desperation by the drafting committee at Chicago in 1944 in the early hours of a November morning." S. S. Wijesinha, **Legal Status of the Annexes to the Chicago Convention** (LL.M Thesis, McGill University, 1960) [Unpublished] at 118.

[579] Air Navigation Commission, 111th Sess., Minutes of the 13th Meeting, 4 March 1986, ICAO Doc. AN Min. 111-13, 15 May 1986, at 63 para. 18.

[580] "A contracting State would, therefore, be liable to another contracting State if the latter, or one of its nationals, suffers damage as the result of a mistaken belief, induced by the lack of notification, that the former contracting State was complying". B. Cheng, "Centrifugal Tendencies in Air Law" (1957) 10 Current Legal Problems at 205 and 206.

standard or procedure. This a contrario interpretation should not stand.

For example, Article 67 states that each State undertakes that its international airlines shall file its statistics with the Council. If an airline or a State does not do so, does it mean that the airline did not operate at all during that year or that the State had no international airline? Moreover, according to Article 81, all aeronautical agreements shall be registered with the Council. Again, if a bilateral agreement is not registered, can a court seized with an action base its judgment that the bilateral does not exist?

The only thing the Chicago Convention (Article 12) says is that a "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". It is only over the high seas that the rules in force shall be the ones established under the Convention.

b. Duty to Notify a Change in Policy

In 1987, Bin Cheng repeated his position that a State's failure to notify of differences "can involve State responsibility and, if damage were to ensue, their

liability. The same applies to breaches of any other treaty obligation."[581]

The author agrees with this position of law in general and supports State responsibility to comply with its treaty obligation but does not support State liability for infringement of Article 38, in the present state of international civil aviation.

In 1957, Cheng based his opinion on a State's duty to notify of a change in policy, as decided in the 1843 case of the "Blockade of Portendic". France had sent a notice to England that she had no intention to blockade of a port, but did so ten months later. The court said that England had to the right to be indemnified because she was not notified of the changes and acted upon a wrong belief.[582]

This case would apply if a State sends a notice but acts differently, as other States and ICAO would then act upon a wrong belief. Nonetheless, the problem of differences to Annexes is different: the majority of

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[581] B. Cheng, "International Legal Instruments to Safeguard International Air Transport: The Convention of Tokyo, the Hague, Montreal, and a New Instrument Concerning Unlawful Violence at International Airports", in **Aviation Security: How to Safeguard International Air Transport**, Proceedings of a conference held on 22 and 23 January 1987 at the Peace Palace, The Hague, The Netherlands (Leyden: International Institute of Air and Space Law, University of Leyden, 1987) 23 at 44.

[582] B. Cheng, **General Principles of Law as Applied by Internationals Courts and Tribunals** (London: Stevens, 1953) at 137 et seq.

contracting States does not send any notification at all with respect to the amendments to the Annexes, even if they do have the legal duty to immediately notify ICAO if their practices differ from the SARPs. Neither other contracting States nor ICAO can argue in court that they should be indemnified for having acted upon a wrong belief. They are aware that during the last forty years, a lack of notification does not correspond to implementation of the SARPs, as it was often reported in numerous Assembly Resolutions, Council and Commission meetings, working papers, etc.

While contracting States have the duty to comply in good faith with the treaties they sign, **Pacta sunt servanda**, the technical problems encountered have in reality acted as an impediment to fulfilling their duty. Seminars, technical assistance, familiarization courses are needed in order for contracting States to be able to comply with their obligations. Nobody can argue that the lack of notification led them to a wrong belief.

c. De Facto Amendment and the Supplement to the Annex

Buergenthal argues that "the contention advanced by Dr. Cheng is untenable". His argument is that the practice of ICAO shows that it does not make the assumption of

compliance in case of absence of notification and that "by formally requesting notification of compliance, the Organization may be deemed to have determined that no presumption of compliance attaches to the failure to notify differences under Article 38. This practice indicates that Article 38 has undergone a **de facto** amendment..."[583]

With respect, the author does not agree. Article 54(j) directs the Council to report any infraction of the Convention, as well as any failure to carry out recommendations or determinations of the Council to the contracting States. In performing its duty with a view to improving compliance with Article 38, the Council is certainly not by its practice in a **de facto** manner amending the latter Article.

To correct the interpretation that notification is **de facto** facultative, the Air Navigation Commission recommended a modification to the table issued as "Supplement Status by Annex". This said that for each Annex for a certain percentage of "No Information Received", "Notification of Differences" and "Notification of "No Differences"", the Council consider amending the first category to "No Information Received: Deemed to Be in Compliance in View of

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583 T. Buergenthal, op. cit. at 100. See also S. Akweenda, "Prevention of Unlawful Interference with Aircraft: a Study of Standards and Recommended Practices" (1986) 35 International and Comparative Law Quarterly 436 at 442.

Article 38 of the Convention".[584] For the Commission, the mention only of "No Information Received" inadvertently suggested permissiveness with regard to Article 38 while Article 38 made notifications of differences compulsory.[585] This was a cause of some concern to some Representatives, who were aware that in practice the absence of a reply did not mean compliance, but believed that this suggestion might get results. Thus they adopted the proposition.

d. Violation of a Treaty Obligation

Article 38 of the Chicago Convention imposes upon a State the duty to notify immediately of their differences. Many contracting States do not comply with this duty. According to Andreas Lowenfeld, "a system of remedies proportional to the violation is constructive, not destructive of international law."[586] He quoted the

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[584] Council, 117th Sess., **Long-term Policy on Annexes to the ICAO Convention - Notification of Differences from SARPS**, ICAO Doc. C-WP/8207, 5 March 1986, at 4 para. 6.1 c).

[585] Council, 117th Sess., Minutes of the 20th Meeting, 26 March 1986, ICAO Doc. 9484 C/1093, C-Min. 117/20, 1986, at 191 para. 12.

[586] A. F. Lowenfeld, "Some Suggestions for Attaching Meaning to the International Responsibility of States for Terrorism" in **Aviation Security: How to Safeguard International Air Transport**, Proceedings of a conference held on 22 and 23 January 1987 at the Peace Palace, The Hague, The Netherlands (Leyden: International Institute of Air and Space Law, University of Leyden, 1987) 120 at 132.

Permanent Court of International Justice's 1920 Chorzów Factory Case, dealing with property Poland had "expropriated" in territory received from Germany after the Treaty of Versailles, in which the Court said:

> "It is a principle of international law that the breach of an engagement involves an obligation to make reparation in an adequate form. Reparation therefore is the indispensable complement of a failure to apply a convention and there is no necessity for this to be stated in the convention itself.[587]

In order to have reparation, a damage must have been sustained by an injured party. Strictly speaking, as States have the duty to immediately notify of any differences they have from the Standards, if they cannot or do not want to comply with them, and if they do not notify, third States might infer that they do comply. Nonetheless, the same argument comes back: States can not infer that silence means compliance, since ICAO, where 160 States are

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[587] Publications of the Permanent Court of International Justice, **Series A-No 9 Collection of Judgments, No 9 Case of the Concerning the Factory at Chorzów** (Leyden: Sythoff's, 1927) at 21. "It is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation... reparation is the indispensable complement of a failure to apply a convention, and there is no necessity for this to be stated in the convention itself. The existence of the principle establishing the obligation to make reparation, as an element of positive international law, has moreover never been disputed in the course of the proceedings in the various cases concerning the Chorzów factory." Publications of the Permanent Court of International Justice, **Series A.-No. 17 September 13th, 1928, Collection of Judgments, No. 13 Case Concerning the Factory at Chorzów** (Leyden: Sythoff's, 1928) at 29.

represented, has been aware, for almost 40 years, that silence does not mean compliance. This remains the case even if members of the Secretariat or the Air Navigation Commission now place more emphasis on the fact that notification is compulsory and that courts might hold a State liable where non-notification caused damage.

Dr. FitzGerald wrote: "[u]ntil the day when the dream of transfer of technology to developing countries comes true, the problem of implementation will continue."[588]

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[588] G. F. FitzGerald, "ICAO now and in the Coming Decades" in **International Air Transport: Law, Organization and Policies for the Future**, Nicolas Mateesco Matte ed.(Toronto: Carswell, 1977) 47 at 51.

CHAPTER II

NORTH AMERICAN REGULATIONS

I. THE UNITED STATES

For decades, the industry had set the standards for the carriage of dangerous goods. Very few accidents occurred. Nonetheless, in the late 1960's with the increase of accidents involving hazardous materials, mostly train derailments, members of the House of Representatives and the U.S. Government felt that the Government should do more than just rubber-stamp industry regulations.[1]

Committees of the House of Representatives and the Senate held hearings in 1969, 1971, 1972, and 1974 on the transportation of hazardous materials, by all modes of transport, and in 1973 for air transportation. These led to the enactment of the **Hazardous Materials Transportation Act**

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[1] "I would not want it to go unsaid that the Government, I think, has relied and the Interstate Commerce Commission relied very properly on the services of the Bureau of Explosives (which is part of the Association of American Railroads), because until very recently that has kept the problem in hand. It may be now the problem has developed to such a position where we need to make a change..." Carl V. Lyon, Deputy Administrator, Federal Railroad Administration, Hearing before a Subcommittee of the Committee on Government Operations, 91st Congress, 1st Session, September 19, 1969, **Transportation of Hazardous Materials**, at 33.

of 1974, enacted on 3 January 1975, as Title I of Public Law 93-633. The enactment was followed by numerous hearings and reports.

A. Situation before the Enactment of the Hazardous Materials Transportation Act

The first regulations on the carriage of explosives were enacted in 1866.[2] Before 1975, there was no single authority to deal with the carriage of hazardous materials by all modes of transport. The Interstate Commerce Commission was in charge of the hazardous materials carriage by motor carrier, pipeline, rail and inland waterway.[3] The Commandant of the Coast Guard was in charge of the carriage by vessels.[4]

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[2] 14 Stat. 81. "The inadequacy of the legislation then enacted led to the passage, in 1908, of the Transportation of Explosives Act [35 Stat. 554 and 1134], which was later extended to cover inflammables [41 Stat. 1444]." **Boyce Motor Lines v. United States** 342 U.S. 337 at 341, 96 L.Ed. 367, 72 S.Ct. 329 (1952); case on the validity of a regulation on the basis of its degree of certainty, where Jackson, J., wrote in dissent: "Would it not be in the public interest as well as in the interest of justice to this petitioner to pronounce this vague regulation invalid, so that those who are responsible for the supervision of this dangerous traffic can go about the business of framing a regulation that will specify intelligible standards of conduct?" 342 U.S. at 346.

[3] 18 USCS § 831-835, **Interstate Commerce Act.**

[4] 46 USCS § 170.

The authority on air safety was given first to the Civil Aeronautics Authority in 1938, and then to the Civil Aeronautics Board.

The authority on air carriage of hazardous materials was given to the Federal Aviation Agency by the **Federal Aviation Act** of 1958,[5] which created this agency.

The FAA Administrator is empowered to make these regulations necessary to provide adequately for national security and safety in air commerce.[6] The former § 902(h) condemned the offender of a prohibited carriage of hazardous materials, either the shipper and the carrier, to $ 1,000 and/or one year of imprisonment, or, if death or bodily injury resulted from the offense, to $ 10,000 and/or 10 years of jail.

In a desire to establish a single authority to "assure the coordinated, effective administration of the transportation programs of the Federal Government",[7] the Department of Transportation was created on 1 April 1967 by its Act of 15 October 1966.

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[5] Pub. L. 85-726, title IX, § 902, Aug. 23, 1958, 72 Stat. 784.

[6] § 602(6) [49 USCS § 1421(6)]. The old § 902(h)(2) added that he might provide by regulation for the application of the regulations of the Interstate Commerce Commission applying to surface transportation [49 USC § 1472(h)(2)].

[7] Publ. L. 89-670, Oct. 15, 1966, 80 Stat. 931, § 2(b)(1) [49 USCS § 1651(b)(1)].

On 1 April 1967, the functions of the agencies dealing with transportation were transferred to the DOT and the Act transferred to the different agencies of the DOT the power to deal with the safety aspects. The Federal Aviation Administrator was thus in charge of air safety aspects, such as the air carriage of hazardous materials.[8] A Hazardous Materials Regulations Board was constituted, with members from different agencies.

Following the train derailments of the late 60's, on 16 October 1970, a **Federal Railroad Safety Act** was enacted, with a **Hazardous Materials Transportation Control Act,**[9] which was repealed in 1975.

B. Hearings before the Enactment of the Act

1. The 1969 Hearings of the House of Representatives

Realising that in the previous 5 years, over 50 cities and towns had been evacuated as a result of a hazardous materials accidents, and that government

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[8] § 6(c)(1) [Old 49 USC § 1655(C)(1)].

[9] Publ. L. 91-458, Oct. 16, 1970, 84 Stat. 971. It granted the Secretary of Transportation the authority to establish facilities and technical staff, a central reporting system, to conduct a review of all aspects of hazardous materials transportation, and to submit a yearly report to the President, § 302.

activities in this area were deficient,[10] a Subcommittee of the House of Representatives investigated the problem.

The evidence disclosed that there was no single authority, no comprehensive set regulations to deal with the problem. Moreover, the DOT Secretary testified that there were 3,000 special permits issued, 30 new ones each months. The Office of Hazardous Materials Director had to rely on industry standards because it had no independent laboratory and no systematic field inspection process.[11]

2. The 1971-1972 Hearings

In these Hearings, an ALPA (Air Line Pilots Association) representative stressed the fact that air

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[10] The Subcommittee quoted a memorandum prepared by the Office of the Secretary of the DOT, outlining that "The Federal Government does not have a uniform regulatory scheme in the hazardous materials area based upon a systematic approach to safety problems; often, existing safety standards are not even related to potential transportation hazards; The Department of Transportation has essentially no field staff in hazardous materials; Historically, the Federal Government has relied heavily on private industry to develop safety standards; for example, the chlorine tank car specifications in DOT regulations were written word-for-word by the tank car committee of the Association of American Railroads. While that is not or may not be bad, that means that we ourselves do not have an evaluation of safety regulations." Hearing before a Subcommittee of the Committee on Government Operations, House of Representatives, 91st Congress, 1st Session, September 19, 1969, **Transportation of Hazardous Materials**, at 2.

[11] ibid. at 31.

shippers were counting on air carriers to know if a shipment was proper for carriage. There was a lack of education on the carrier's part, since they were depending upon T.C. Georges Tariff No. 23, a rail and highway publication, instead of the proper 14 C.F.R. part 103 and 49 C.F.R. parts 170-179. There was also a lack of training and supervision by carriers of air cargo personnel, although shippers relied on them for advice on the proper nature of the shipment. As well, the enforcement of regulations was so weak as to be nonexistent.[12]

With respect to the Delta Air Lines Contamination Incident of 31 December 1971, the National Transportation Safety Board remarked that it was the result of a carriage made under a special permit (No. 5800) which allowed the service of containers that had been made obsolete by amendments to the regulation to be continued. It pointed out "the manner in which special permits, lacking specific limitations, can allow economic investments to escape. The greater the investment, the greater the desire to convert the special permits to permanent regulations."[13]

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[12] Hearings before the Subcommittee on Government Activities of the House Committee on Government Operations, House of Representatives, 92nd Congress, 1st and 2nd Session, December 1, 1971, **Transportation of Hazardous Materials**, at 185-186.

[13] ibid., 28 June 1972, at 311.

Another problem was encountered when the agency wanted to withdraw a permit because it believed there was an increase in risk. The industry would then vigorously contest the withdrawal "in view of the successful experience to-date under the permits."[14]

3. The 1973 Hearings

The first hearings on the transportation of hazardous materials by air was held in 1973.[15] According to the Office of Hazardous Materials Director, the majority of the air carriers and air freight forwarders facilities inspected were found to be in violation of the hazardous materials regulations.[16] He agreed that the compliance with the regulations was more or less on the honour system, in light of the lack of enforcement.[17]

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[14] National Transportation Safety Board, Special Study, "Risk Concepts in Dangerous Goods Transportation Regulations", Report Nº NTSB-STS-71-1, at 10.

[15] Hearings before the Government Activities Subcommittee of the House Committee on Government Operations, 93rd Congress, 1st Session, March 14, 15, and April 5, 1973.

[16] ibid., 14 March 1973, at 3 and 4.

[17] Mr. Burns, OHM Dir.: "I wouldn't say the honour system, they are required by law to comply."
H. Repr. Parris: "But we are not supposed to drive our car beyond the speed limit, or spit on the street, but people do it every day because nobody, or very few people, ever get apprehended. Doing that is not a similar

The Subcommittee's Chairman quoted the DOT's (Department of Transportation) own admission, to the effect that FAA (Federal Aviation Administration) inspectors were "unaware of hazardous materials regulations and are unqualified to make the critical decisions regarding air carrier and shipper compliance with the regulations."[18]

As to whether it was reasonable to make air carriers responsible for packaging and labeling if they were not doing these things themselves, a FAA Director answered that the air carrier had to be the check point.[19]

The Chairman of the Subcommittee concluded frankly: "In short, our system of regulating the shipment of hazardous materials by air is totally out of control."[20]

C. The Hazardous Materials Transportation Act of 1974

The Hazardous Materials Transportation Act[21] of 1974 was enacted on 3 January 1975. Its purpose was to expand

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situation?"
Mr. Burns: "It is an analogous situation.", ibid. at 14.

[18] ibid., 5 April 1973, at 80.

[19] James F. Rudolph, Director, Flight Standards Service, Federal Aviation Administration, ibid. at 65.

[20] Repr. Jack Brooks, ibid., 5 April 1973, at 80.

[21] Publ. L. 93-633, Jan. 3, 1975, Title I, 88 Stat. 2156.

the existing authority over shippers and carriers to cover manufacturers of containers and packages, to add civil penalties and injunctive relief to criminal penalties, and to give the whole authority on hazardous materials to the Secretary of Transportation.[22]

The Act defines a hazardous material as "a substance or material in a quantity and form which may pose an unreasonable risk to health and safety or property when transported in commerce."[23] These quantities and forms are designated by the Secretary,[24] who issues the regulations.[25]

1. Power of the Secretary of Transportation

According to courts, the Secretary does not have to compare the modes of transportation to determine which one

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[22] U.S.Code Cong. and Admin.News, 93rd Cong., 2d Sess. (1974), at 7679-7680.

[23] § 103 (2) [49 USCS § 1802]. Annex 18 to the Chicago Convention says: **Dangerous goods.** Articles or substances which are capable of posing significant risk to health, safety or property when transported by air.

[24] § 104 [49 USCS § 1803]. "Hazardous material" is defined in the regulations (49 CFR § 171.8) as "a substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated."

[25] § 902(h)(1) was amended in consequence, since the Secretary of Transportation is now the authority to provide the regulations [49 USCS § 1472].

is the safest, and to permit the use of only the safest mode for any function. He need only develop acceptable levels of public safety for each mode of transportation.[26]

The Secretary is authorized to issue or renew an exemption from the Act and from the Regulations, for any person who carries the material "in a manner so as to achieve a level of safety (1) which is equal to or exceeds that level of safety which would be required in absence of such exemptions, or (2) which would be consistent with the public interest and policy of this title in the event there is no existing level of safety established... A notice of an application for issuance or renewal of such exemption shall be published in the Federal Register."[27]

With respect to radioactive materials, the Secretary may issue regulations which prohibit any transportation thereof "unless the radioactive materials involved are intended for use in, or incident to, research, or medical diagnosis or treatment, so long as such materials as prepared for and during transportation do not pose an unreasonable hazard to health and safety."[28]

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[26] **City of New York v. United States Dept. of Transp.** 715 F.2d 732 at 741 (2nd Cir., 1983).

[27] § 107(a) [49 USCS § 1806].

[28] § 108 [49 USCS § 1807].

The Act allows the Secretary to require a registration statement from persons dealing with hazardous materials;[29] except with respect to radioactive materials, for which there is a licensing system, no such registration has been yet introduced.

2. Violations

Any person who knowingly or willfully commits an act in violation of the Act or the Regulations is subject to a civil penalty of $10,000 for each violation, and to a criminal penalty of $25,000 for each offense, and/or an imprisonment for a term of 5 years.[30]

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[29] "Each person who transports or causes to be transported or shipped in commerce... or who manufactures, fabricates, marks, maintains, reconditions, repairs, or tests packages or containers..." § 106(b) [49 USCS § 1805].

[30] § 110 [49 USCS § 1809]. Until 1979, the violator remained subject to the section of the Interstate Commerce Commission Act on the carriage of explosives which created a penalty, 18 USC § 834(f); **United States** v. **Allied Chemical Corp.** 431 F.Supp. 361 (New York, 1977): "I find that 49 U.S.C. § 1809(a) and 18 U.S.C. § 834(f) are not in irreconcilable conflict and that the penalty under 49 U.S.C. § 1809(a) and (b) was not clearly intended to substitute for the penalty under 18 U.S.C. § 834(f)", at 368. On § 831-835, see J. F. Rydstrom, "Criminal Liability for Transportation of Explosives and Other Dangerous Articles Under 18 USC §§ 831-835 and Implementing Regulations" 8 American Law Reports Federal 816.

§§ 831-835 were repealed by Public Law 96-129, 30 November 1979, Title II, Sec. 216 (b), 93 Stat. 1015.

Considering that § 1809 speaks of a knowing and willful violation, does intent have to be proven in the courts?

Dealing with a shipper who "did knowingly fail to show on the shipping papers the required classification of said property, to wit, Corrosive Liquid, in violation of 49 C.F.R. 173.427", the U.S. Supreme Court remarked that "where,... dangerous or deleterious devices or products or obnoxious waste materials are involved, the probability of regulation is so great that anyone who is aware that he is in possession of them or dealing with them must be presumed to be aware of the regulation."[31]

Since he has the statutory duty to inform passengers and his employees on the Regulations, an air carrier would hardly be able to plead ignorance of the Regulations.[32]

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[31] **United States v. International Minerals and Chemical Corp.** 402 U.S. 558 at 565, 91 S.Ct. 1697 at 1702, 29 L.Ed.2d 178 (1971). "A person thinking in good faith that he was shipping distilled water when in fact he was shipping some dangerous acid would not be covered." 402 U.S. at 563-564. The prosecution was under 18 U.S.C. § 834(f). In **United States v. Thompson-Hayward Chemical Co.** 446 F.2d 583 (8th Cir., 1971), where the shipper was aware of the material shipped, the court added: "the Government had to prove beyond a reasonable doubt that defendant's actions were deliberate or the result of willful neglect", at 586. See also **Ashland Oil, Inc. v. Miller Oil Purchasing Co.** 678 F.2d 1293 at 1315 (5th Cir., 1982) (good faith carrier not liable under § 834(f), since he "did not know the hazardous character of the substance his trucks were transporting"); see also **United States v. United States Pipe & Foundry Co.** 415 F.Supp. 104 (E.D.Tennessee, 1976).

[32] 49 CFR § 175.20 and § 175.25.

At the Secretary's request, the Attorney General can bring an action "for equitable relief" such as punitive damages, "to redress a violation", and may suspend or restrict the transportation of hazardous materials in case of an imminent hazard.[33]

3. Importation

The importer shall provide the shipper and the forwarding agent with a complete set of information as to the requirements for the shipment of the material. The shipper shall provide the initial carrier in the United States with the certificate of compliance in accordance with the regulations.[34]

4. Preemption

The Act preempts American State or political subdivision requirements which are inconsistent with it, except where, in a non-preemption ruling, the Secretary determines that these requirements afford an equal or

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[33] § 111 [49 USCS § 1810].

[34] 49 CFR § 171.12(a).

greater level of protection to the public and does not unreasonably burden commerce.[35]

The shipper of a hazardous material who violates local regulations prohibiting his shipment can ask the DOT to declare that the local laws are preempted. Both the courts and the DOT can determine if a State regulation is in fact inconsistent.[36]

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[35] The non-preemption ruling is issued following the application of the local authority § 112 [49 USCS § 1811]. In a more general term, Article VI (2) of the American Constitution stipulates: "...the Laws of the United States... shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding." See the long decision over local regulations and DOT decisions in **City of New York** v. **United States Dept. of Transp.** 539 F.Supp. 1237 (S.D.N.Y., 1982) and 715 F.2d 732 (2nd Cir., 1983). See also E. A. Nolfi, "State or Local Regulation of Transportation of Hazardous Materials as Pre-empted by Hazardous Materials Transportation Act (49 USCS §§ 1801 et seq.)" 78 American Law Reports Federal 289; K. M. Lewis, "Radioactive Material Transportation: Federal Regulations Pose Roadblocks to Local and State Initiatives" (1984) 35 Syracuse Law Review 1235.

[36] **Nat. Tank Truck Carriers, Inc.** v. **Burke** 608 F.2d 819 at 822 (1st Cir., 1979), 535 F.Supp. 509 (D.Rhode Island, 1982), 698 F.2d 559 (1st Cir., 1983). **National Tank Truck Carriers** v. **City of New York** 677 F.2d 270 (2nd Cir., 1982). State Rules found consistent in **Southern Pacific Transp.** v. **Corporation Commission** 730 P.2d 448 (N.Mex., Supr. Ct., 1986). Local regulations judged unconstitutional in light of the burden which they place on interstate commerce in **Browning-Ferris, Inc.** v. **Anne Arundel Cty.** 438 A.2d 269 (Ct.App. Maryland, 1981). City's injunction against the railway broadly prohibiting it from violating the Act judged inappropriate in **Consolidated Rail Corp.** v. **City of Dover** 450 F.Supp. 966 (D.Delaware, 1978). Conflict between County and State: **Anne Arundel Cty.** v. **Governor** 413 A.2d 281 (Ct. of Special App.Maryland, 1980).

Nonetheless, the DOT can answer that, even if it has the authority to regulate a specific material, it will not exercised that authority. In that case, the local government is free to enact its own regulations in this field.[37]

a. Inconsistency with Local Law

One may apply to the appropriate agency for an administrative ruling on the inconsistency between local or state law and the Hazardous Materials Transportation Act and

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[37] **City of New York** v. **United States Dept. of Transp.** 715 F.2d 732 (2nd Cir., 1983), **Jersey Central Power & Light Co.** v. **Lacey TP.** 772 F.2d 1103 (3rd Cir., 1985). **Nat. Tank Truck Carriers, Inc.** v. **Burke** 608 F.2d 819 at 820 (1st Cir., 1979): "all consistent and exempted inconsistent state regulations are allowed to remain in effect". State may adopt the federal regulations by reference: **People** v. **Kavanaugh** 507 N.Y.S.2d 952 (Dist.Ct., 1986). State may lawfully require hazardous materials and waste transporter to obtain a state license for an annual fee of $ 25 or a single-trip of $ 15 without violating the Constitution's Commerce Clause nor being preempted by the Hazardous Materials Transportation Act: **N.H. Motor Transport** v. **Flynn** 751 F.2d 43 (1st Cir., 1984).

its Regulations.[38] The Inconsistency Rulings are advisory opinions and non-binding.[39]

Dealing with Inconsistency Ruling (IR-16) after an application concerning the Tucson City Code Governing Transportation of Radioactive Materials, the Materials Transportation Bureau said that Congress intended "to

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[38] 49 Code of Federal Regulations §§ 107.201 - 107.209. The tests set forth in 49 CFR § 107.209 (c) are: (1) whether compliance with both the (state or local) requirement and the Act or the Regulations issued under the Act is possible (the dual compliance test); and (2) the extent to which the (state or local) requirement is an obstacle to the accomplishment and execution of the Act and the Regulations issued under the Act (the obstacle test).

[39] List of Inconsistency Rulings: IR-1, 20 April 1978, 43 Federal Register 16954; IR-2, 20 December 1979, 44 Fed. Reg. 75566, Appeal 30 October 1980, 45 Fed. Reg. 71881; IR-3, 26 March 1981, 46 Fed. Reg. 18918, Appeal 29 April 1982, 49 Fed. Reg. 18457; IR-4, 11 January 1982, 47 Fed. Reg. 1231, Appeal 2 and 5 August 1982, 47 Fed. Reg. 33357 and 34074; IR-5, 18 November 1982, 47 Fed. Reg. 51991; IR-6, 6 January 1983, 48 Fed. Reg. 760; IR-7, 27 November 1984, 49 Fed. Reg. 46632; IR-8, 27 November 1984, 49 Fed. Reg. 46637, Appeal 20 April and 11 June 1987, 52 Fed. Reg. 13000 and 22416; IR-9, 27 November 1984, 49 Fed. Reg. 46644; IR-10, 27 November 1984, 49 Fed. Reg. 46645 and 12 March 1985, 50 Fed. Reg. 9939; IR-11, 27 November 1984, 49 Fed. Reg. 46647; IR-12, 27 November 1984, 49 Fed. Reg. 46650; IR-13, 27 November 1984, 49 Fed. Reg. 46653; IR-14, 27 November 1984, 49 Fed. Reg. 46656; IR-15, 27 November 1984, 49 Fed. Reg. 46660, Appeal 20 April and 15 May 1987, 52 Fed. Reg. 13062 and 18492; IR-16, 20 May 1985, 49 Fed. Reg. 20872; IR-17, 9 June 1986, 51 Fed. Reg. 20926, Appeal 25 September and 6 November 1987, 52 Fed. Reg. 36200; IR-18, 2 January 1987, 52 Fed. Reg. 200, Appeal 29 July 1988, 53 Fed. Reg. 28850; IR-19, 30 June 1987, 52 Fed. Reg. 24404, Appeal 7 April 1988, 53 Fed. Reg. 11600; IR-20, 30 June and 7 August 1987, 52 Fed. Reg. 24396 and 29468; IR-21, 2 October 1987, 52 Fed. Reg. 37072, Appeal 11 November 1988, 53 Fed. Reg. 46735; IR-22, 8 and 29 December 1987, 52 Fed. Reg. 46574 and 49107; IR-23, 11 May 1988, 53 Fed. Reg. 16840; IR-24, 31 May 1988, 53 Fed. Reg. 19848;

preclude the multiplicity of state or local regulations and the potential for varying as well as conflicting regulations in the area of hazardous materials transportation."[40]

A previous Inconsistency Ruling had had to deal with a local law creating new classes of hazards. The Ruling stated that the shippers and carriers only had to follow the hazard classes stipulated in the **Hazardous Materials Regulations**,[41] as "the proliferation of differing State and local systems of hazards classification is antithetical to a uniform, comprehensive system of hazardous materials transportation safety regulations... situation which Congress sought to preclude..."[42]

The present Ruling (IR-16) stated that the different definition of what was a "radioactive material" had led to the creation of a new class of hazard.[43]

The MTB also repeated the long established view of the DOT on local requirements regarding shipping papers:

> "... the shipping paper requirements of the H.M.R. are exclusive and that any additional shipping paper requirements are inconsistent under the H.M.T.A. Furthermore, when shipping papers contain information relating to hazard class definitions other than those in the

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[40] S. Rep. No. 1192, 93rd Cong., 2nd Sess., 37 (1974), quoted at 50 Federal Register 20873.

[41] IR-5, 47 Federal Register 51991.

[42] IR-6, 48 Federal Register 764.

[43] 50 Federal Register 20874.

> H.M.R., the resulting confusion can lead to deviations from DOT's uniform hazard warning systems. This, in turn, can have detrimental effects during emergency."[44]

b. Inconsistency with Common Law

Common law may come into conflict with the **Hazardous Materials Regulations.** Common law may also be State or local law. The court might then be confronted with the inconsistency between the Act and common law.

In **Andre v. Union Tank Car Co., Inc.,**[45] where a chemical company employee who had lost consciousness and fallen from a tank car while working on it, sued the manufacturer of the tank car for having improperly labelled the tank car, and a failure of his common law duty as a manufacturer to warn of the danger, a New Jersey court adopted judicially the Inconsistency Rulings of the Materials Transportation Bureau. The case referred to the duty of a tank car manufacturer to warn that its car might carry a dangerous product.

In this case, the problem was that as the tank car was carrying different products, it would not have been possible to label the tank car because (1) "A warning that a

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[44] 50 Federal Register 20875.

[45] 516 A.2d 277 (N.J.Sup.C., 1985).

product may have an unknowable danger warns of nothing"[46] and, moreover, (2) the **Hazardous Materials Transportation Act** specified the labels to be used:

> "The clear intent of Congress in the hazardous materials regulations is to classify those items which pose a danger, identify the danger and specify exactly what warnings and precautions need to be taken to protect against harm."[47]

Moreover, the Regulations specified that it was the shipper's to appreciate the danger posed by the commodity shipped, and, as provided in the Inconsistency Rulings with respect to shipping papers, the requirements are exclusive.

The Court said: "even if there is no express preemption of this common law action, preemption implied from legislative intent may be inferred to arrive at this conclusion."[48] It concluded that the Act preempted the State common law in this field:

> "In order to protect the nation adequately against the risks of life and property which are inherent in the transportation of hazardous materials in commerce, Congress consolidated and expanded the department's regulatory and enforcement authority. To

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[46] **Feldman v. Lederle Laboratories** 479 A.2d 374 at +399, 97 N.J. 429 (Supr.Ct., 1984).

[47] 516 A.2d at 282.

[48] "Three questions can be asked: First, is there a pervasive scheme of federal regulations in the area; second, is the federal intent in such area dominant; and third, do the objectives of the federal law in the area and the obligations imposed by it reveal the same purpose." 516 A.2d at 284-5.

> allow the state common law action to survive in this case would, in essence, provide the state with an expansion of its regulatory authority, allowing a new reservoir of differing and possibly incompatible railroad safety laws."[49]

It is important to note that the Court rejected the pretention that the manufacturer was strictly liable for the failure to warn that its tank car might carry a dangerous product. Such liability would be more dangerous.[50] Consequently, not only was the state common law preempted, but there was no common law duty.

5. Private Right of Action

a. Enforcement of the Act and Regulations

Individuals or cities have no right to sue a violator of the Act on the ground that he is violating the Act. In **Ridgefield Borough v. New York Susquehana & W.R.**[51], it was held that the Act does not create a private right of action: "When Congress has not contemplated implied

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[49] 516 A.2d at 285.

[50] "to cause a manufacturer to place permanent labels on a tank car without regard to the permissible content would in itself constitute a defect and would render the tank car unusable for its intended purpose." 516 A.2d at 285.

[51] 632 F.Supp. 582 (N.J., 1986)

private actions, courts should not infer their existence."[52] The Court of Appeals said: "the legislative history reveals a decision to omit citizen enforcement suits from these remedies, providing persuasive evidence that Congress did not intend to create an implied private cause of action under the statute."[53]

The same was decided with respect to an alleged violation of the rules of the Interstate Commerce Commission. It was not actionable negligence, since they were prescribed for certain declared purposes, such as promotion of uniform enforcement of law, state of precautions to be taken, et cetera.[54]

b. Act and Regulations as a Standard of Care

Even if the Act contains no provision authorizing private suits to enforce the Act or Regulations issued under it, it provides a standard of care nonetheless.

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[52] "There is no doubt, therefore, that Congress knew how to create private rights of action at the time the HMTA was enacted... The House version did not include the provision, nor did the Act as enacted." ibid. at 583.

[53] Bor. of Ridgefield v. N.Y Susquehanna & Western R.R. 810 F.2d 57 at 60 (3rd Cir., 1987).

[54] Davis v. Gossett & Sons 118 S.E. 772 at 776. (Georgia App., 1923).

(1) The Carrier

The carrier who does not comply with the regulations when he stows the dangerous goods and causes damage because of his non-compliance is negligent and can be sued where the carrier's negligence is the proximate cause of the damage:

> "Violation of these regulations, by which Waterman [the carrier] admitted it was bound, constitutes negligence on the part of the carrier which proximately caused or contributed to the fire."[55]

Following the famous crash of November 1973 at Boston Logan Airport due to smoke in the cockpit originating from a shipment of nitric acid, Pan American tried to recover from the manufacturer Boeing, on the basis of Boeing's failure to provide adequate means to exclude hazardous quantities of smoke from the cockpit. The court granted Boeing's motion for summary judgment, because Pan American was contributory negligent and its negligence was a proximate cause of the accident.

Boeing supplied the court with many examples of violations of federal regulations governing the acceptance, handling and loading of nitric acid:[56]

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[55] **Waterman S.S. Corp. v. Virginia Chemicals, Inc.** 651 F.Supp. 452 at 456 (S.D.Alabama, 1987), dealing with negligent stowage of 917 drums of sodium hydrosulfite.

[56] "For example, the nitric acid, a highly corrosive liquid, was accepted by Pan Am for loading without being packaged in fire-safe metal containers cushioned by

> "there is no question that Pan Am failed to exercise that degree of care prescribed by law for transporting nitric acid by air[57]... Even if Boeing, by exercise of due care, could have prevented the smoke from entering the cockpit, Pan Am's responsibility for creating the fire in the first instance was certainly "a material element and substantial factor" contributing to the accident."[58]

In **Gibbs** v. **Grace Bros., Ltd.**,[59] an action against the carrier was dismissed because there was no preponderance of evidence that any negligent act of the carrier was a proximate or contributing cause of the fire, even if his employee was not aware of the regulations concerning loading of hazardous materials (49 C.F.R. § 176.13: each carrier shall comply with all applicable regulations and shall thoroughly instruct his employees in relation thereto) and

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incombustible material as required by federal regulations, 49 C.F.R. § 173.268(i), and without being properly marked and labeled to reflect the dangerous nature of the contents. Instead, the glass bottles of nitric acid were packed in boxes stuffed with sawdust which was visibly leaking from some of the boxes. Moreover, no instructions were given as to how the packages should be arranged in the cargo compartment, and none of the boxes were properly marked "THIS END UP" as required by 49 C.F.R. § 173.25(b)(3). In addition, even though some of the boxes contained directional arrows which provided guidance as to the way in which the containers should be stored, it is undisputed that eight to ten boxes on each pallet were stored on their sides contrary to the directional arrows." **Pan American World Airways, Inc.** v. **Boeing Co.** 500 F.Supp. 656 at 658 (S.D.New York, 1980).

[57] 500 F.Supp. at 658.

[58] 500 F.Supp. at 659.

[59] 639 F.Supp. 1128 (D.Hawaii, 1986).

his personnel did not exercise the requisite standard of care in the loading, segregation and protection from damage.

(2) The Shipper

In **Poliskie Line Oceanicze v. Hooker Chemical,**[60] the shipper was found "doubly" negligent. Firstly, he was found to have stowed sulphur dichloride in violation of the Regulations and:

> "In addition to the violations of these regulations, which would constitute negligence per se, there was a consensus among the expert witnesses which supports a finding that defendant's stowage was done negligently."[61]

In **Seaboard Coast Line R.R. v. Mobil Chemical,**[62] the shipper of phosphorus trichloride had leased a tank car and given it to a carrier for transport. The railroad examined the railway car which derailed during the carriage, causing damage to the environment. The railroad had to make substantial payments to third persons. While both the shipper and the carrier contended that the defect in the tank car which had caused the derailment was not

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[60] 499 F.Supp. 94 (S.D.New York, 1980).

[61] 499 F.Supp. at 97.

[62] 323 S.E.2d 849 (Ct.App.Georgia, 1984).

discoverable upon a reasonable inspection, the court did not agree and held that it was the intent of both the Act or Regulations to impose an express or implied warranty against latent defects in the tank car upon the shipper. The regulations staced that the shipper had to certify that the materials was properly packaged, and "packaging" including the assembly of tank cars.[63] § 171.2 states that no person may offer or accept unless it is properly packaged: "[t]he same regulations also require the carrier to inspect for defects before accepting and transporting such materials, and prohibit it from doing so unless the conditions are met."[64] It added:

> "The clear import of these regulations is to provide a system designed to protect the general public from unreasonable risks... not to impose a strict liability on the part of shippers of these materials, burdening them with an absolute duty to insure against all risks or harm."[65]

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[63] 49 C.F.R. § 172.204 and § 171.8.

[64] 323 S.E.2d at 852.

[65] ibid.

(3) Compliance with the Act as a Defence to Negligence[66]

In **China Union Lines, Ltd. v. A. O. Anderson & Co.,**[67] two vessels had collided, one spilling 1,400 tons of acrylonitrile. In discussing the statutes enacted by Congress on dangerous goods, the court agreed that a carrier which followed the Regulations was insulated from the charge of negligence with respect to such stowage:

> "It has been said, and rightfully so, that these statutes and the regulations promulgated thereunder amount to much more than a set of prohibitions with punitive sanctions. They established a standard of care."[68]

The court decision in **Marshall v. Isthmian Lines, Inc.,**[69] was to the same effect. Dealing with the Coast Guard Regulations on hazardous articles, the court stated, in the case of an injured longshoreman: "The whole statutory scheme is something much more that a set of prohibitions with punitive sanctions. It establishes a standard of care

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[66] Section 288B of the Restatement (Second) of Torts: "(1) The unexcused violation of a legislative enactment or an administrative regulation which is adopted by the court as defining the standard of conduct of a reasonable man, is negligence in itself. (2) The unexcused violation of an enactment or regulation which is not so adopted may be relevant evidence bearing on the issue of negligent conduct."

[67] 364 F.2d 769 (5th Cir., 1966).

[68] 364 F.2d at 784.

[69] 334 F.2d 131 (5th Cir., 1964).

to which all concerned are bound, including those who do, and those who do not, wish to comply."[70]

In another case, where plaintiffs had introduced chemical experts testimony to prove the carrier's negligence, the court answered:

> "surely they are not to be held negligent when they seek and follow advice of expert and experienced agencies such as the Coast Guard, the Fire Department and the Board of Underwriters, instead of mapping out rules of their own based upon consultation with academic experts."[71]

c. The Post-transportation Period

For the violation of a statute to serve as the basis of a civil action, the person injured must be a person or a member of a class for whose benefit or protection the law is enacted.[72] Courts have thus rejected the application of the **Hazardous Materials Transportation Act** for any period after the transportation.

In **Williams v. Hill Mfg. Co., Inc.,**[73] a person was

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[70] ibid. at 134-5.

[71] **A/S J. Ludwig Mowinckels Rederi v. Accinanto** 199 F.2d 134 at 141 (4th Cir., 1952).

[72] The two others criteria being, whether the legislature intended to create a private liability, as distinguished from one of a public character, and, whether the injury complained of was such as the enactment was intended to prevent. See Restatement, Torts 2d §§286, 288.

[73] 489 F.Supp. 20 (D.South Carolina, 1980).

injured while emptying a drum of an explosive chemical (Xylene). He brought an action in tort against the manufacturers, complaining i.a. that the manufacturer was negligent and violated the DOT regulations with respect to the labeling of flammables for shipment.

According to the court, the Act states, in its first section, that the policy of the Congress is to protect the Nation "against the risks to life and property which are inherent in the transportation of hazardous materials in commerce." It concluded that the injured person was not a person for whom benefit the law was enacted:

> "While strict requirements are set forth as to labeling of goods which are presented for shipment, or are in shipment, at no point are any requirements as to post-shipment labeling propounded... Certainly plaintiff cannot bring himself within the regulations after the container had lain about on his employer's property for over a year."[74]

The decision was similar to that in Garrett v. E.I. DuPont De Nemours & Co.,[75] where an employee was burned by sulfuric acid while pouring it out of a drum which his employer had received. In court he submitted that the I.C.C. (Interstate Commerce Commission) regulations on the shipment of dangerous goods served as standard of care for

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[74] 489 F.Supp. at 23.

[75] 257 F.2d 687 (3rd Cir., 1958).

the industry. The trial court prevented him from presenting testimony of experts on those regulations:

> "Insofar as concerns the I.C.C. regulations in controversy, the plaintiff was not within the class of persons intended to be protected because their purpose is for the protection and safety of railway employees and of the public while shipment of a dangerous nature are in transit."[76]

Nonetheless the courts have used the regulations to protect a carrier's employees, even after the end of the period of transportation. In **Mast v. Standard Oil Co. of California,**[77] the Supreme Court of Arizona scrutinized 49 C.F.R. §173.315(b)(1) to verify if the producer and shipper of liquified petroleum gas had complied with their duty to odorize their product, "whether the propylene content of the

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[76] 257 F.2d at 690. In a similar situation, where the injured employee was arguing the applicability of the Regulations, the court answered: "We do not agree... Plaintiff sustained personal injuries in attempting to unload acid from the tank car after it reached its destination, not while it was in the process of transportation", in **Blackwell v. Phelps Dodge Corp.** 203 Cal. Rptr. 706 at 712, 157 Cal.App.3d 372 at 380 (1984). Same conclusion in **Davis v. A.F. Gossett & Sons** 118 S.E. 773 (Ct.App.Georgia, 1923), where the accident occurred on the private spur or side track of the consignee, the labels on the car having being removed or lost during the shipment: "The manifest purpose, then, of the congressional authority in the premises and of the rules promulgated by the Commission in pursuance of that authority is, not for the protection or advantage of either the shipper or the consignee, but solely for the protection and safety of railway employees and of the public from any accidents arising from the movement of shipments defined as dangerous, during the course of their transportation from one point to another", at 776.

[77] 680 P.2d 137 (Supr.Ct.Arizona, 1984).

LP gas itself could have met the standard of care imposed by law".[78]

There was no discussion whether the employee who was emptying a tank car at his employer's track was in the class of people protected by the Act or regulations or not. The Court stated:

> "Regulations such as that quoted above impose a mandatory duty or standard of care in lieu of that imposed by the common law; the majority of courts hold that breach of such a duty or standard of care is negligence per se."[79]

D. The Hazardous Materials Regulations

The Hazardous Materials Regulations, found in 49 CFR Parts 171 to 179,[80] are quite complicated. In 1987 the DOT wrote that a staff of nine hazardous materials specialists

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[78] 680 P.2d at 140.

[79] **Mast v. Standard Oil Co. of California** 680 P.2d 137 at 139 (Supr.Ct.Arizona, 1984) reversing in part 680 P.2d 155 (Ariz.App., 1983).

[80] Part 171: Information and definitions.
Part 172: Hazardous Materials Table.
Part 173: Shippers- General Requirements for Shipments and Packagings.
Part 174: Carriage by Rail.
Part 175: Carriage by Air.
Part 176: Carriage by Water.
Part 177: Carriage by Highway.
Part 178: Construction Specifications for Packagings, except Rail Tank Cars.
Part 179: Specifications for Tank Cars.

at the Research and Special Program Administration were spending half of their time explaining the Regulations to the users.[81]

To Government officials, the complexity of Regulations is often used by a shipper or carrier as the basis of an argument not to follow them.[82]

The Regulations are an outgrowth of a system developed over the years by the industry. As to the identification and classification system, the National Transportation Safety Board (NTSB) remarked that "[i]n developing the system, industry primarily used accident experience to make judgments about the hazard posed by a material and about adequacy of packaging methods to minimize the potential for releases of materials during transportation."[83]

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[81] 5 May 1987, 52 Federal Register 16484. It wrote the same in 1982; 15 April 1982, 47 Federal Register 16269.

[82] According to a French official: "On tire trop souvent argument d'une complexité apparente des réglementations, argument qui toutefois ne résiste pas à l'analyse de celles-ci et l'expérience permet d'affirmer que ce n'est pas la complexité mais la négligence ou le non respect de certaines prescriptions élémentaires qui sont sources de difficultés, voire d'incidents." A. Redon, "Aspects Règlementaires des Transports de Matières Radioactives par Voie Maritime" in **Maritime Carriage of Nuclear Materials: Proceedings of the Symposium in Stockholm, 18-22 June 1972**, by the International Atomic Energy Agency and the OECD Nuclear Energy Agency with the Collaboration of FORATOM. (Vienna: International Atomic Energy Agency, 1973), at 141.

[83] 7 February 1985, 50 Federal Register 5271.

Regulations are sometimes made ex post facto. For example, the methyl isocyanite is classified as a flammable product. Nonetheless, the 3 December 1984 release of 3,750 gallons of methyl isocyanite in Bophal, India, resulted in the deaths of more than 2,000 people while no fire was involved. A material classified for its flammability was then causing widespread death due to its toxicity.[84] The DOT then published a proposal[85] for a new regulation on packaging and placarding requirements for liquids which can be toxic if inhalated, to be effective on 1 January 1986.[86] At the same time, ICAO forbade the carriage on cargo aircraft of this product in its 1986 edition of the Technical Instructions.

Another problem is the impossibility of installing a preclearance system, under which each new product would be submitted by the shipper to the appropriate government agency before the first carriage thereof. More than 30,000 different chemicals are shipped and most of them are not listed by named in the Regulations table of § 172.101.

The Materials Transportation Bureau takes the view that such a system is not feasible because of the staffing

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[84] ibid. The NTSB noted that Union Carbide was carrying this material in a more stringent way than the one provided by the Regulations.

[85] 7 February 1985, 50 Federal Register 5270.

[86] 8 October 1985, 50 Federal Register 41092.

this would require, as well as the imposition of a heavy burden on shippers thereby.[87]

1. The Carriage by Aircraft

On 2 August 1982,[88] the former Materials Transportation Bureau (MTB) proposed amendments to the Regulations to permit the carriage of hazardous materials shipments by aircraft or by motor vehicle, incidental to transportation by aircraft. These amendments are in conformity with the ICAO Technical Instructions, effective on 1 January 1983.

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[87] ibid. at 41092 and 41093.

[88] 47 Federal Register 33295.

a. The ICAO Technical Instructions

(1) Implementation

ICAO Technical Instructions are only an alternative set of regulations,[89] which can be used with some limitations.

§ 171.11 says: "Notwithstanding the requirements of Parts 172 and 173 of this subchapter, a hazardous materials may be transported by aircraft, and by motor vehicle either before or after being transported by aircraft, in accordance with the ICAO Technical Instructions if the hazardous material:...(c) Is not a forbidden material or package according to § 173.21 or Column (3) of the Table to § 172.101... (d) Fulfills the following additional requirements as applicable:... (7) If a United States variation is indicated in the ICAO Technical Instructions for any provision governing the transport of the hazardous material, the hazardous material is transported in conformance with the variation..."

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89 "The MTB considers it important to stress that air carriers must fully comply with Part 175 of the HMR [Hazardous Materials Regulations] and that compliance with Part 5 of the ICAO Technical Instructions is not authorized in place of full compliance with Part 175 of the HMR." It adds that it made amendments to comply with ICAO Technical Instructions "to the maximum extent possible." 48 Federal Register 35472, August 4, 1983.

There are so many variations contained in the Technical Instructions, that a commentator, though exagerating slightly, wrote that even if the U.S. permitted the use of the Instructions, "after reading through a list of variations, an exporter may be forgiven for thinking that he must effectively comply with 49 CFR, as randomly modified by the TIs!"[90]

In addition with the specification provided by the Regulations, packagings may be marked with the United Nations symbol and packaging identification code, provided in ICAO Technical Instructions or in Annex 1 to the IMDG Code.[91]

(2) The Technical Instructions as a Standard of Care

While courts recognize that the Regulations on dangerous goods establish a standard of care, their position is different with respect to the alternative sets of regulations permitted by the U.S. Regulations.

For example, in **State of La., Ex. Rel. Guste v. M/V Testbank**,[92] two vessels collided and from one PCP

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[90] J. Hookham, "State of the Variations" Hazardous Cargo Bulletin (July/August 1987) 46.

[91] § 178.0-3: "... provided that the person applying these markings has established that the packaging conforms to the applicable provisions of the ICAO Technical Instructions or Annex 1 to the IMDG Code, respectively."

[92] 564 F.Supp. 729 (D.Louisiana, 1983).

(pentachlorophenol) spilled. At the time of the collision (22 July 1980), no U.S. statutes or regulations was binding with respect to the carriage of PCP, so the court found no statutory violation from which any presumption of fault might arise.

The court refused to consider a violation of the IMDG Code[93] compliance with which is made optional by the U.S Regulations at §172.102, as a violation of a standard of care, for two reasons. First,

> "there is nothing in the federal regulatory scheme that indicates optional compliance with the IMDG Code in the transportation of regulated substances which makes compliance with the IMDG Code mandatory as to nonregulated substances such as PCP."[94]

In addition, a plaintiff who attempts to prove that a violation of a statute constitutes breach of a standard of care, must show that he is a member of the class for whose benefit the statute was enacted and that the harm suffered is of the kind that the statute was intended to prevent. According to the court,

> "It is undisputed in this record that the IMDG Code was drafted to protect cargo and life at sea, not the environmental interest represented by the various plaintiff fishermen, parties to this litigation."[95]

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[93] International Marine Dangerous Goods Code of the Inter-Governmental Maritime Consultative Organization (IMCO), now the International Maritime Organization (IMO).

[94] 546 F.Supp. at 739.

[95] 564 F.Supp. at 739.

Even if the court said that there was non-compliance of the IMDG Code as to packaging of PCP but compliance as to stowage "[w]hile expressing no opinion as to the correctness of using these advisory guidelines as the appropriate standard of conduct", it reached the conclusion that the carrier was without fault in the damages which resulted from the collision.

b. Part 175 of the Regulations

Part 175 deals specifically with carriage by aircraft: these requirements are in addition to those in Parts 171 to 173.[96] At the beginning of the Part, § 175.10 has 22 subparagraphs of different hazardous materials which may nonetheless be carried.

(1) The Shipper

The shipper must see that each packaging is "designed and constructed to prevent leakage that may be caused by changes in altitude and temperature during air

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[96] § 175.5(a): "This part applies to the acceptance for transportation, loading and transportation of hazardous materials in any aircraft in the United States and in aircraft of United States registry anywhere in air commerce..."

transportation."[97] He shall class and describe the material in accordance with the Regulations, determine that the packaging or container has been manufactured, assembled and marked in accordance with them.[98]

§ 172.200(a) provides that "each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by this subpart."

This person "shall certify that the material is offered for transportation in accordance with this subchapter by printing"[99] the declarations written in paragraph (1), (2) or in § 172.205(c)(1).[100] A copy of the document must accompany the shipment during the air carriage.[101]

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[97] § 173.6, "Shipments by air". § 173.6(b)(2): "...These completed packagings must be capable of withstanding a 4-foot drop on solid concrete in the position most likely to cause damage..."

[98] § 173.22. As to the manufacturing and testing specifications for packaging and containers used, see § 178 seq. (Part 178- Shipping container specifications.)

[99] § 172.204(a).

[100] "I hereby certify that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and in proper condition for carriage by air according to applicable national governmental regulations." § 175.204(c)(1); "This shipment is within the limitations prescribed for passenger aircraft/cargo aircraft only (delete nonapplicable)." § 175.204(c)(3).

[101] § 175.35.

If any radioactive material is transported aboard a passenger-carrying aircraft, it is necessary to sign a certificate stating that the shipment is intended for use in, or incident to, research, or medical diagnosis or treatment.[102]

(2) The Airline Operator

The airline operator has a regulatory duty to accept only proper hazardous materials.[103] § 175.30(a)(2) provides that the material must be described and certified as required[104] in § 172.200 et seq. or in § 171.11, the latter being the ICAO Technical Instructions, labeled and marked as required in § 171.11 or § 172.300 et seq. (marking) and §172.400 et seq. (labeling), or labeled "cargo aircraft only" if not permitted aboard passenger-carrying aircraft.

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[102] § 172.204(c)(4).

[103] § 175.30(a) states: "No person may accept a hazardous material for transportation aboard an aircraft unless the hazardous material is:" in conformity with a list of requirements.

[104] These requirements have the kind of limpidity found sometimes in regulations. § 175.30 says that the shipping paper must be prepared in accordance with Subpart C of Part 172 or as authorized by § 171.11. The first section of Subpart C says that "This subpart does not apply to any material other than a hazardous waste or a hazardous substance, that is: (1) An ORM-A, B, or C, unless it is offered or intended for transportation by air when it is subject to the regulations pertaining to transportation by air as specified in § 172.101..."

Each person who discovers a discrepancy between the above information and the shipment, following its acceptance for transportation shall notify the FAA (Federal Aviation Agency) by phone.[105]

Even if the shipper certifies that his package complies with the Regulations, the operator of the aircraft must inspect the package, outside container, overpack or unit load device tendered to him,[106] with few exceptions.[107] He may not carry it if the package has some definite problems,[108] or if he has not complied with certain requirements.[109]

He shall keep an adequate supply of labels at each location,[110] provide the pilot-in-command with a list of

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[105] § 175.31.

[106] § 175.30(b): "Except as provided in paragraph (d) of this section, no person may carry a hazardous material in a package, outside container, or overpack aboard an aircraft unless the package, outside container, or overpack is inspected by the operator of the aircraft immediately before placing it: (1) Aboard the aircraft; or, (2) In a unit load device or on a pallet prior to loading aboard the aircraft." § 175.88 deals with unit load devices.

[107] § 175.30(d).

[108] § 175.30(c). The operator must determine that the integrity of the package is not compromised, and that radioactive materials have no broken seal, except if they are in overpacks.

[109] § 175.30(e).

[110] § 175.40.

specific information,[111] and report to the FAA by phone with respect to each hazardous materials incident at the earliest practicable moment, and later in writing.[112] He must remove from the aircraft any package which appears to be damaged or leaking.[113]

After being unloaded from the aircraft, the package or overpack as well as the area where a unit load device stood must be inspected for any damage or leakage.[114]

When an aircraft operator gives the package to a motor carrier, he becomes then, for the purposes of the Regulations, a shipper.[115] He shall then provide to the motor carrier the required placards.[116]

The airline operator has the duty to thoroughly instruct his employees in relation to the Regulations.[117] He shall inform passengers about hazardous materials

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[111] § 175.33. "A copy of the written notification to pilot-in-command shall be readily available to the pilot-in-command during the flight." § 175.33(b).

[112] § 175.45.

[113] § 175.90(b).

[114] § 175.90.

[115] "if a freight container or aircraft unit load device is loaded by a carrier, it is the responsibility of the carrier to apply the required labels or tag." 48 Federal Register 35472, 4 August 1983.

[116] § 172.506 and § 175.512.

[117] § 175.20.

restrictions, by posting a notice in accordance with specified requirements.[118]

c. The U.N. Performance-Oriented System, Docket HM-181

While the U.N. system of tests that the packaging must succeed to be acceptable is based on performance-oriented packaging standards, the DOT system has specific conditions which must be met, such as thickness, dimensions, spacing between nails, etc. With every new technological discovery in the packaging of hazardous materials, the DOT had to issue exemptions from its Regulations. Thus, it decided to adopt the U.N. system with respect to packaging.[119]

On 15 April 1982, the DOT published an advance notice of proposed rulemaking, inviting comments on the need to establish a set of performance-oriented packagings standards instead of the actual detailed design standards. It felt that the United States might be out of step with other countries adopting the U.N. system,[120] and that

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[118] § 175.25.

[119] It quoted Title IV of the **Trade Agreements Act** of 1979 (Publ. L. 96-39): "Each Federal agency, in developing standards, shall take into consideration international standards and shall,... if appropriate, develop standards based on performance criteria." 5 May 1987, 52 Federal Register 16484.

[120] 15 April 1982, 47 Federal Register 16268.

foreign shipments would not be accepted in the United States and vice versa. The issue was whether to have two systems or to adopt the U.N. system.[121]

The United States allowed carriers to use the actual performance-oriented standards of the Technical Instructions implemented by reference, if also taking into account any Government variations.

It was felt that certain specific tests should be more stringent in the U.S.A. than in the U.N. system. The DOT expressed the opinion that these tests should be adopted for domestic carriage only, because for international carriage, their adoption could be considered a barrier to trade in violation of the Trade Agreements Act. The rules adopted for domestic carriage would be no more stringent for international carriage so as not to create a competitive disadvantage.[122]

On 5 May 1987, the DOT published[123] a notice of proposed rulemaking, to amend the Hazardous Materials Regulations to bring them into alignment with the U.N. Recommendations on the Transport of Dangerous Goods and ICAO Technical Instructions with respect to classification, packaging and the communication of the hazards. These

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[121] ibid. at 16269.

[122] 5 May 1987, 52 Federal Register 16488.

[123] ibid. at 16482.

amendments would reduce the Regulations by at least 350 pages.[124] The DOT plans to issue a final rule before 1990, with a delay of five years as to the effective date.

Per package quantity limitations for transportation by aircraft would be brought in accordance with the ICAO Technical Instructions.[125] Part 175, Carriage by aircraft, would remain unchanged.

The American industry which closely follows and discusses the DOT Regulations under the **Administrative Procedure Act**,[126] does however not have a say as such in the U.N. forum. More than 90 % of all non-bulk packaging used in the hazardous chemical transportation is used for domestic shipments.[127] The industry fears that the DOT

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[124] "The goals of this effort are to : (1) simplify the Hazardous Materials Regulations for both bulk and non-bulk shipments; (2) significantly reduce the volume of the regulations; (3) provide for greater flexibility in the design and construction of many hazardous materials packagings in order to recognize technological advancements; (4) promote safety in transport through the use of better packaging; (5) reduce the need for exemptions; and, (6) facilitate international commerce, including commerce between the United States and Canada." ibid. at 16484.

[125] ibid. at 16490.

[126] 5 USCS § 551 et seq. § 552 obliges each agency to publish in the Federal Register for the guidance of the public its regulations, statements of general policy or interpretation, etc.

[127] V. Vitollo, "A Conflict of Interest" Hazardous Cargo Bulletin (July/August 1988) 21 at 22.

regulations, approved with the input of the American public but may be opposed in the U.N. forum.

2. The Private Carrier

§ 177.817 requires to private carrier of hazardous materials to be in possession of shipping papers. In **Northern Indiana Public Service Co. v. State,**[128] the carrier charged with a contravention to this section argued that he was not a private carrier, because he was the owner of the diesel fuel and gasoline carried.

The court rejected this argument, since the Regulations clearly included private carriers as possible offender.[129] Moreover, the Congressional intent behind the Regulations was that no person transport a hazardous material unless in accordance with the regulations:[130] "Thus, whenever hazardous materials are transported, unless an exemption exists, the transporter is subject to the

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[128] 504 N.E.2d 311 (Ind.App. 3 Dist. 1987)

[129] 49 CFR 390.33 (b) defines "private carrier", i.a., as somebody who is not a common carrier but carries "in furtherance of any commercial enterprise."

[130] § 171.2 (b).

precautions required by the federal regulations adopted by our statute."[131]

E. The Superfund

The release of toxic materials into the environment led to the enactment of the **Comprehensive Environmental Response, Liability, and Compensation Act** of 1980, amended in October 1986.[132]

Under this Act, the President is authorised to arrange the removal of any hazardous substance which is released or likely to be released from a "facility", which includes aircraft;[133] he may undertake investigations, and take remedial actions.[134] He may require the Attorney

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[131] 504 N.E.2d at 313. "For example, in a highway emergency involving hazardous materials, shipping papers can provide a means to quickly identify the nature of the cargo so that a response team can plan appropriate action to protect the public. In such an emergency, there is no difference in the need for this information based on who owns the hazardous material, and this regulation does not create one."

[132] 42 U.S.C §§ 9601-9675; Act Dec. 11, 1980, P. L. 96-510, 94 Stat. 2767, amended by Act October 17, 1986, P. L. 99-499, 100 Stat. 1613, cited as "Superfund Amendments and Reauthorization Act of 1986". § 9614 (a): "Nothing in this Act shall be construed or interpreted as preempting any State from imposing any additional liability or requirements with respect to the release of hazardous substances within such State."

[133] § 9601 (9).

[134] § 9604.

General to secure such relief as may be necessary to abate such danger or threat, and issue appropriate orders.[135] Violation of the orders is chargeable up to $ 25,000 per day of violation.

Except for proof of an act of war, God, or a third party, the owner of an aircraft, any person who arranges with a transporter for transport for disposal or treatment of hazardous substances, or any person who accepts those substances for transport to disposal or treatment facilities, is liable for:

(A) all costs of removal or remedial action incurred by the US Government or a State or an Indian tribe;

(B) any other necessary costs of response incurred by any other person consistent with the national contingency plan for the removal of those substances revised and republished under the Act;[136]

(C) damages to natural resources; and

(D) the costs of any health assessment or health effects study carried out under the Agency for Toxic and Substances and Disease Registry made under the Act.

Liability for any aircraft owner, operator, or other responsible person for such a release, does not exceed $ 50

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[135] § 9606 (a).

[136] 40 C.F.R. Part 300.

millions, though the President may reduce the amount to a sum not less than $ 5 million.[137]

The term "hazardous substance" is specifically defined.[138] The Act adds that every such hazardous substance so listed or designated shall be listed and regulated as a hazardous material under the **Hazardous Materials Transportation Act.** Except if "a carrier can demonstrate that he did not have actual knowledge of the identity or nature of the substance released",[139] a carrier shall be liable under other law in lieu of § 9607 until the time that the substance is so listed or prior to the effective date of such listing.

Known as the "Superfund", the Act authorises the creation of a Hazardous Substance Superfund of not more than $ 8,500,000,000, for the payment of governmental response costs, or any claim for necessary costs incurred by any other person as a result of the national contingency plan, etc.[140] No claim may be made against the Fund unless it is

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[137] § 9607.

[138] § 9601 (14).

[139] § 9656. The words "transport" and "transportation" means the movement of a hazardous substance by any mode, and include any stoppage in transit which is temporary, incidental to the transportation movement (§ 9601 (26)).

[140] § 9611.

first made against the owner, operator or guarantor of the facility.

The victim may petition the President to conduct a preliminary assessment of the hazards to public health.[141] He may commence a civil action on his own behalf against any person who is alleged to be in violation of any standard, regulation, requirement, which is effective pursuant the Act.[142]

F. Situation after the Enactment of the Hazardous Materials Transportation Act

1. The Late Seventies

Following the conclusion of the hearings held in 1973, when the chairman of the Subcommittee judged that "our system of regulating the shipment of hazardous materials is totally out of control", there were several incidents, the Pan-Am 707 cargo aircraft crash at Boston's Logan Airport on 3 November 1973 and an Eastern Airlines' carriage of contaminated human plasma.[143]

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[141] § 9605 (d).

[142] § 9659.

[143] "The shipment arrived in Miami and was said to be labeled only "Human Plasma". There was no mention of its biological or potentially hazardous nature... The shipment

The NTSB (National Transportation Safety Board) report on the Boston Airport crash found "that the system for regulating the shipment of hazardous materials by surface and by air is extremely complex, widely misunderstood, and poorly enforced; and therefore poses a serious and continuous threat to life and property."[144] It suggested that the air carrier institute a monitoring

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was placed in a refrigerator overnight until 7:15 a.m., January 30, when it was placed on Eastern Airlines Flight No. 192 which departed Miami 12:15 p.m. and arrived at Washington National Airport at 2:30 p.m.

The shipment did not arrive at the Eastern Airlines Cargo Terminal until 8:00 p.m. on January 30. For 5 1/2 hours the shipment was unaccounted for; however, the Cargo Manager claims that the shipment probably sat on the loading platform. It was at this time that one of the two boxes was noted to be leaking. The two boxes were then placed in a kitchen-type refrigerator until picked up by the consignee, Electronucleonics, on the morning of February 1. At the time of pickup it was noted that a liquid pool of plasma had collected on the bottom of the refrigerator...

Subsequently the refrigerator was cleaned out with soap and water and "disinfected" with 70% isopropyl alcohol. The refrigerator was not used again until February 4 when a supply of pre-packed luncheon meats was placed in the refrigerator for a period of about 12 hours. The meat was delivered to a delicatessen in Fairfax, Virginia." On February 5, the Eastern Cargo Manager contacted Public Health officials in Virginia and the meat was destroyed. Dr. Calvin A, Klein Jr., Report of the Viral Diseases Division, Bureau of Epidemiology, Disease Control Center, March 4, 1974, Exposure to Antigen Positive Human Plasma-Washington National Airport, in **Transportation of Hazardous Materials by Air**, Hearing before a Subcommittee of the Committee on Government Operations, Government Activities and Transportation Subcommittee, House of Representatives, 94th Congress, 1st Session, 1975, Appendix 4, at 84.

[144] ICAO Circular 132-AN 193 No. 10, Aircraft Accident Digest No. 21, 1977, Report NTSB-AAR-74-16, 2 December 1974, at 103.

system to assure that all dangerous goods shipped are inspected at air carrier's receiving point.[145]

The Subcommittee wanted to see how the FAA and DOT would implement the new **Hazardous Materials Act** of 1975 and its effect.

ALPA testified that, between January and October of 1975, more than 600 exemptions from the hazardous materials safety rules had been granted by FAA without any notices of application having been published in the Federal Register, in violation of the provisions of section 107(a) of the statute.[146] The DOT's position was that this section did not become effective until after the Secretary had prescribed procedures for the issuance of exemptions under the **Hazardous Materials Transportation Act.**[147]

ALPA also complained that too many radioactive materials could be transported because of the broad

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[145] ibid. at 107.

[146] **Transportation of Hazardous Materials by Air,** Hearing before a Subcommittee of the Committee on Government Operations, Government Activities and Transportation Subcommittee, House of Representatives, 94th Congress, 1st Session, 1975, at 22. The real figures are 20 "exemptions" and 1,000 "waivers" issued or renewed by the FAA, and 63 "special permits" issued by the Office of Hazardous Materials Operations, all for a period up to 2 years. 21st Report by the Committee on Government Operations, **Transportation of Hazardous Materials by Air,** House Report No. 94-975, 1976, at 9.

[147] James T. Curtis, Jr., Director, Materials Transportation Bureau, DOT, ibid. at 51.

interpretation given to "research purposes" in the regulations.[148]

There was also the complexity of the regulations, not drafted so as to be understandable to those carrying them out. What would a deck worker do if he reads that an "etiologic agent means a viable micro-organism or its toxin which causes or may cause human disease and is limited to those agents listed in 42 C.F.R. 72.25(c) of the regulations of the Department of HEW..."?[149]

In its 1976 Report, the Chairman of the Committee on Government Operations stated that "for the most part FAA has relied and continues to rely upon voluntary compliance of shippers with packaging and labeling regulations"[150], and that "inadequacies of the regulatory system have created potential dangers."[151]

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[148] Part 103.1(d)(2) of the Federal Aviation Regulations, effective 3 May 1975: "Research means investigation or experimentation aimed at the discovery of new theories or laws, and the discovery and interpretations of facts or revision of accepted theories or laws in the light of new facts."

[149] 49 C.F.R. § 173.386; quoted in ibid. at 33.

[150] Transportation of Hazardous Materials by Air, 21st Report by the Committee on Government Operations, House Report No. 94-975, 1976, House of Representatives, 94th Congress, 2d Session, at 6.

[151] ibid. at 7. "Current regulations permit certain hazardous materials to be transported on aircraft even though such materials cannot be adequately dealt with in the event of an emergency." ibid. at 38.

2. The Eighties

In 1980, a hearing was held on Aviation Safety and Hazardous Materials Handling,[152] a continuation of the hearings conducted by the Subcommittee since 1969. It was continuous testimony on the inability of the U.S. Regulations to protect the public. For example, one gallon of electrolytes were released from a properly packaged and documented shipment of wet storage batteries. Generally, approximately 70 percent of all restricted articles were rejected by a carrier's coordinator because of noncompliance with the regulations:[153]

> "Whether out of ignorance, negligence, or disregard, it is clear that hazardous materials shippers have been routinely acting in violation of the law and, therefore, endangering the safety and lives of air

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[152] **Aviation Safety: Hazardous Materials Handling.** Hearing before a Subcommittee of the Committee on Government Operations. Government Activities and Transportation Subcommittee. House of Representatives, 96th Congress, 2nd Session. August 16, 1980. Washington, U.S. Government Printing Office, 1980.

[153] "Rejection rates of 65 to 70 percent are very common, and all too often when a shipment is refused for noncompliance, a broker shipper either relabels the product to conceal the hazardous material, or picks another air carrier. On many occasions I have talked to shippers and been told that their shipment has been refused several times and maybe another carrier wouldn't be so choosy. One time, I actually refused the exact same shipment four times." John Denker, representing the Airlines Employees Local Lodge 1213 and a restricted cargo specialist, ibid. at 20.

> transport industry workers and the flying public. We cannot understand why this practice is allowed to continue."[154] "Over the last 3 years there were 689 incidents and 65 injuries involving hazardous materials which were reported to the DOT. Though already quite high, we are certain that these figures represent an understatement of the real total".[155]

Of all U.S. carriers reporting, Federal Express reported 421 of the 689 incidents.

It was suggested that a record of dishonest shippers be circulated between airlines.[156] Others felt that shippers of hazardous materials should be licensed[157] with the penalty for violations being the threat of lifting that license. Under the **Hazardous Materials Transportation Act**, the Materials Transportation Bureau can issue such license, but it refused to do so.[158] According to the FAA's Director of Civil Aviation Security, since anyone can be a shipper, "the approach of registering all potential shippers would

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[154] Jeff Pector, Coordinator, San Francisco Airport Labor Coalition, ibid. at 4.

[155] ibid. at 6: "Many incidents and injuries go unreported to the DOT because they take place en route to the air freight facility or in a postal facility; or the concerned party is unaware of the requirement to report their incident or injuries; or the concerned party intentionally fails to report, knowing they can get away with it and wanting to avoid penalties or loss of customer patronage."

[156] John Denker, ibid. at 27.

[157] Representative Robert S. Walker, ibid. at 32.

[158] ibid. at 33.

probably be impossible because the certificate would be as common as a drivers license."[159] While it would be possible to license certain categories of shippers, to license all would be impossible.[160]

As Captain Beach said, "the problems that can occur in an airplane while in flight are really magnified because you can't stop an airplane in the air, park it someplace and take care of the problem,"[161] "but the airlines have the opportunity to choose what they want to carry."[162]

An additional problem was the detection of "illegal" hazardous materials:

> "The way it works right now is that the airlines are alert for a suspect package. That suspect package could be either one that is labeled a hazardous material and they think it is beyond limits or improperly packed, or suspect package could be one that is in the so-called plain brown wrapper... When they are detected, then the airlines do have the authority generally to open the package. Then when we are informed of a case like that, the FAA approach now is to pursue that case very, very vigorously to achieve criminal prosecution of that case because of its willfulness. By publicizing that, we can get the word out that is a criminal offense and that those people who would choose to violate

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159 Richard F. Lally, ibid. at 46.

160 ibid. at 53.

161 Capt. Paul Beach, Chairman, Hazardous Materials Committee, ALPA, ibid. at 29.

162 ibid. at 30.

the law this way do so at a very severe risk."[163]

As to the reporting of hazardous materials incidents, an audit report of the US Postal Service in February 1980 said that "[S]ince 1971 DOT has received over 59,000 reports on hazardous material incidents. Officials in the Hazardous Materials Enforcement Division are of the opinion that the incidents reported probably represent less than 20 percent of the actual incidents that occur."[164]

In 1988, it was reported that in the last five years, there were 11,000 notifiable incidents under the U.S. Hazardous Materials Transportation Regulations, but none involved death on air carriers. Damage to property exceeded $ 60 millions.[165]

The Secretary of Transportation established a Task Force to analyze the safety programs of many administrative bodies, such as the Research and Special Programs Administration (RSPA), "responsible for regulating and enforcing proper identification and containerization of

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[163] Robert F. Lally, Director of civil aviation security for the FAA, ibid. at 57.

[164] United States Postal Service, Audit Report, Acceptance and Handling of Hazardous Material, February 1980, Case No. 215-103-8-0009-AO, Inspection Service, Eastern Region, Washington Division.

[165] "American Airways Flight; February 3, 1988; Nashville Airport, Tennessee" Hazardous Cargo Bulletin (July/August 1988) 80.

hazardous materials in transport, and for maintaining a central reporting system and data centre that provide police and fire officials with information necessary for dealing with hazardous materials transportation emergencies."[166]

The Report shows the limits of the RSP Administration. Its inspectors are responsible for 30,000 shippers of hazardous materials at 100,000 locations, as well as 7,000 containers and cylinder manufacturers, retesters, reconditioners and rebuilders: "It is unlikely that RSPA will ever have enough inspectors to police the industry on its own."[167]

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[166] Department of Transportation, U.S.A., **Safety Review Task Force Report on the Hazardous Materials Program of the Research and Special Programs Administration**, February, 1985.

[167] At 17 of the Report.

II. CANADA

Several minutes before midnight on 10 November 1979, a train derailment near Mississauga, Ontario, spilled toluene, propane and, chlorine gas, a fatal gas, leading to the evacuation of 250,000 people from that city for several days. This accident had a major impact on the Canadian Parliament, since the accident happened in Ontario, the most populous province of Canada, and the population demanded action from the Government.

At that time, there was no general act dealing with the carriage of dangerous goods. Provisions in different regulations dealt with different modes of transportation.

Since 1917, when a vessel full of munitions exploded in the harbour of Halifax, Nova Scotia, killing hundreds of people, Canadians have been well aware of the dangers of the carriage of hazardous substances. More recently, after the spilling of PCBs on an highway in Ontario and the fire in a PCB warehouse in St-Basile-le-Grand, Quebec, the Canadian people have become aware of the importance of the carriage of these products. Both federal and provincial environment ministers recently urged airlines to stop the carriage of PCBs on passenger aircraft, when they learned that in November 1987 and June 1988, Air Canada had flown 27 tones of contaminated waste on its scheduled flights to Heathrow

Airport, London, England. According to Air Canada, there was no risk to passengers, as all the necessary Government and IATA rules and regulations concerning the carriage of hazardous chemicals had been met.[168] Nonetheless, until recently, Government regulations on air transport of dangerous goods were almost non-existent.

A. Situation before the Transportation of Dangerous Goods Act of 1980

For many years, the Canadian Government did little to regulate the air carriage of dangerous goods. Paragraph 800 of the Air Regulations dealing with dangerous goods has not been changed since 1962.[169] As in many countries, the matter was left de facto to IATA, government regulations of the air carriage of dangerous goods being minimal. Canada was on IATA's of countries which had formally adopted the provisions of the IATA Regulations as part of their legislation or through the issuance of a permit authorizing

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[168] P. Koring, "McMillan to Urge Canada's Airlines not to Carry Waste with Passengers", **The [Toronto] Globe and Mail** (27 September 1988) A1 and A2; Canadian Press, "Environment Ministers to Consider Ban on Air Transport of PCBs", **The [Montreal] Gazette** (4 October 1988) B1.

[169] Except for a minor change, "on the aircraft" being changed by "on board the aircraft" in Subsection (4).

air carriers to carry restricted articles by air as defined in the Regulations.[170]

1. Right to Carry

The first **Air Regulations**, adopted in 1919, referred to "explosives" in the same paragraph which prohibited the carriage by air of mail, radiotelegraph and telephone without written permission. No such permission could be obtained for explosives under the Regulations. Paragraph 111 began with the following: "No passenger aircraft shall carry any explosives"; there was no reference to cargo aircraft.[171]

The **Air Regulations** of 1938 were permissive: "No aircraft carrying explosives shall carry a passenger other than the owner of the explosives or his accredited representative. This regulation does not apply to ammunition permitted for hunting or sporting purposes or

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[170] Eighteenth Edition (1975) of the IATA Regulations, Section I para. 4.

[171] **Air Regulations of 1920**, adopted on 31 December 1919, P.C. 2596, Canada Gazette, 17 January 1920.

required as emergency equipment."[172] The Air Regulations of 1948 were exactly the same.[173]

This provision was nonetheless amended with the adoption of Annex 6 to the Chicago Convention. Because Paragraph 3.5 of the Annex stating that no dangerous goods could be carried without the permission of the State of Registry of the aircraft, this paragraph was changed to a slightly more restrictive wording.[174]

The wording of Paragraph 800 (1) was established in 1954:

> (1) Explosives and other dangerous articles or substances shall not be carried on board any aircraft except as authorized by the Minister.[175]

In fact, though no regulations were made, there was a de facto recognition of the IATA Restricted Articles Regulations. The Canadian Transport Commission accepted

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[172] P.C. 1433, adopted on 23 June 1938, Canada Gazette, 20 August 1938, Section VII, Part VIII, Paragraph 1 (1).

[173] Established on 11 May 1948, SOR/48-221, Section VII, Part VIII, Paragraph 1 (1), Canada Gazette Part II, at 1348s.

[174] Paragraph 8.1.2: "Explosives and other dangerous articles, other than those necessary for the operation or navigation of the aircraft or for the safety of the personnel or passengers on board, shall not be carried in an aircraft except as may be directed by the Minister." Air Regulations of 1951, SOR/51-222, adopted on 24 May 1951, Canada Gazette Part II, 13 June 1951, at 575s.

[175] P.C. 1954-1821, SOR/54-588, adopted on 23 November 1954, Paragraph 800 (1), Canada Gazette Part II, 8 December 1954, at 2108.

them as the air carriers' tariffs filed with the Commission, and the certification delivered to the air carriers prescribed, until recently, compliance with the IATA Regulations.

Still, ministry authorization is required. The ICAO Technical Instructions contains the following Canadian "State Variation":

> "The Transportation of dangerous goods to, from or within Canada is subject to prior authorization (Section 800, Air Regulations). Applications must include copy of an existing national authorization and a statement relating to the training standard being met..."

The **Transport of Dangerous Goods Regulations**[176] state that one of the conditions of use of the ICAO Technical Instructions is the necessity for authorization to be issued pursuant to Section 800 of the **Air Regulations.**[177]

In practice, permission to carry dangerous goods in accordance with the Regulations is attached to the operating certificate issued to air carriers by the Government.

Since 1962 the carriage of dangerous goods by passenger aircraft has been legally permitted. On 26 April

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[176] SOR/85-77, Canada Gazette Part II, 6 February 1985, at 393, as amended by SOR/85-609, Canada Gazette Part II, 10 July 1985, at 2982.

[177] SOR/85-609, Canada Gazette Part II, 10 July 1985, Paragraph 8 amending Section 2.9 of the Regulations, at 2989 and 2990.

1962, the provision stating that "no aircraft carrying explosives or other dangerous articles or substances shall carry any passenger other than the owner of such goods or his accredited representative" was revoked by the Government.[178]

2. Shipper's Duty to Warn

The **Air Regulations** of 1938 established the shipper's duty to inform the carrier when he sends explosives. An amendment of 1954 added "other dangerous articles or substances".[179] This provision, at Paragraph 800 (2) of the Air Regulations, is still in force.[180]

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[178] SOR/62-163, Canada Gazette, Part. II, 9 May 1962, Paragraph 17, p. 518 at 521.

[179] P.C. 1954-1821, SOR/54-588, adopted on 23 November 1954, Paragraph 800 (1), Canada Gazette Part II, 8 December 1954, at 2108.

[180] "No person shall send or take upon an aircraft any explosives or other dangerous articles or substances without distinctly marking their nature on the outside of the containers thereof or otherwise giving notice thereof to the person in charge of the aircraft, or the person whose duty it is to receive such goods on board." Subsection (3) adds that Subsections (1) and (2) do not apply to substances necessary for the operation of aircraft or for the safety of the crew or passengers.

3. Information Provided by the Pilot

The last Subsection of Paragraph 800 was adopted in 1960 and is certainly obsolete:

> (4) The pilot-in-command of an aircraft shall, if practicable, advise the appropriate air traffic control unit when explosives or other dangerous articles or substances are carried on board the aircraft.[181]

Written at a time when carriage of dangerous goods by aircraft was less common, the carriage of dangerous goods is now so wide-spread that the subsection obliges the pilot to advise air traffic controllers almost every time he flies a commercial aircraft. Paragraph 9.5 of Annex 18 and paragraph 4.4 of Part 5 of the Technical Instructions recommend that the pilot should inform the air traffic services unit "if an in-flight emergency occurs". As the Canadian regulations are stricter than the Annex 18 provisions, a notification of difference to the Annex and variation to the Instructions must be sent.

On the other hand, paragraph 9.12 of the **Transportation of Dangerous Goods Regulations**[182] requires the information required by in Annex 18 be provided.

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[181] SOR/61-10, established 29 December 1960, Canada Gazette Part II, 11 January 1961, 36 at 63.

[182] SOR/85-77, Canada Gazette Part II, 6 February 1985, at 393.

4. The Charterer

Schedule XIII of the **Air Carrier Regulations**, no longer in force,[183] contained a provision for charterers imported from maritime law, in particular the Hague Rules of 1924:

> "Any charterer shipping or attempting to ship dangerous articles in contravention of any government regulation shall be liable to the carrier for all loss or damage directly or indirectly caused thereby, and the carrier may store or dispose of such articles at the charterer's risk and expense."[184]

If the master of the ship may easily dispose the dangerous goods during the transportation, it would obviously be harder for an aircraft commander. Also, the only previous Government regulation to that under the **Transportation of Dangerous Goods Act** of 1985 was Section 800 of the Air Regulations. It is by virtue of the

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[183] Replaced by the **Air Transportation Regulations**, SOR/88-58, Canada Gazette Part II, 20 January 1988, at 361.

[184] **Air Carrier Regulations**, Schedule XIII, Section 8 (2). Compare with Article IV paragraph 6 of the Schedule to the **Water Carriage of Goods Act**, R.S.C. 1952, c. 291 (The Hague Rules of 1924 Relating to Bills of Lading): "Goods of an inflammable, explosive or dangerous nature whereof the carrier... has not consented with knowledge of their nature and character, may at any time before discharge be landed at any place or destroyed or rendered innocuous by the carrier... and the shipper of such goods shall be liable for all damages and expenses directly or indirectly arising out of or resulting from such shipment..."

Minister's authorization, a shipment may be deemed not to be "in contravention of any government regulation".

Since Schedule XIII applied to Class 4 charter, this provision was only applicable when a charterer shipped by a charter of Class 4 (within Canada)[185] a dangerous good in contravention of any Government regulation.

B. The Transportation of Dangerous Goods Act of 1980

In 1973, the Minister of Transport, Jean Marchand, created an interdepartmental committee to scrutinize the federal legislation and regulations concerning the carriage of dangerous goods. He also consulted provincial governments with a view to streamlining their respective regulations on highway transportation.[186] Though initially the highway traffic was contemplated, "the increasing use of intermodal transport makes it necessary to seek to harmonize the regulations for all modes, so that consignors of

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[185] Section 119 of the **Air Carrier Regulations** says that Schedule XIII contains the charter tariff applicable to Class 4 charter for that class of air service operated with fixed wing aircraft.

[186] Commons Debate, 1st Session, 32nd Parliament, 2 May 1980, at 671, by Jean-Luc Pépin, Minister of Transport.

dangerous goods need only follow one set of rules when preparing their goods for shipment."[187]

On 2 May 1980, the Act was tabled in Parliament on as Bill C-18,[188] and adopted on July 16 of the same year.[189] It intends "to establish a single legislation under which existing agencies, whether federal or provincial, can apply everywhere in Canada a set of regulations governing standards, procedures and labelling for the handling of dangerous goods by any means of transport."[190]

1. Applicability

The Act and Regulations apply "to all handling, offering for transport and transporting of dangerous goods, by any means of transport, whether or not for hire or reward

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[187] Canada, Commons Debates, 1st Session, 31st Parliament, 27 November 1979, at 1761, by Don Mazandowski, Minister of Transport.

[188] The first bill, C-53, was tabled in May 1978 but died when the session of Parliament came to an end. Reintroduced as Bill C-17 in November 1978, the defeat of the liberal Government prevented its adoption. The following conservative minority Government reintroduced the Bill as C-25 in November 1979, when the population was demanding the Government action to be taken after the Mississauga derailment. But the minority Government was defeated soon after.

[189] S.C. 1980-81-82-83, c. 36, in force on 1 November 1980, now 1985 R.S., c. T-19.

[190] Common Debates, 1st Session, 32nd Parliament, 2 May 1980, at 672 (official translation).

and whether or not the goods originate from or are destined for any place or places in Canada." The Act "applies to all transporting of dangerous goods by ships, vessels and aircraft registered in Canada, whether in or outside Canada" (Article 3 (1) and (2)).

The Minister may issue a permit when he is satisfied that the handling, offering for transport or transporting of dangerous goods otherwise not in compliance with the Act and its Regulations provides a level of safety equivalent to that required under the Act.[191]

2. Financial Responsibility

The Minister may require any person engaged in or proposing to engage in the handling, offering for transport or transporting dangerous goods to provide evidence of financial responsibility, in the form of insurance or an indemnity bond.[192]

3. The Manufacturer

The manufacturer has a duty to warn the Director General of the Transport of Dangerous Goods Directorate when

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[191] Article 27.

[192] Article 19.

he offers dangerous goods for transportation or when he imports them in bulk or in a placardable quantity.[193] The paragraph restricts this duty to "Canadian" manufacturer.

The Minister may send written notice to any manufacturer or distributor requesting the disclosure of information relating to the formula, composition or chemical ingredients of any product, substance or organism and other information deemed necessary for the enforcement of the Act.[194]

4. Inspection and Administration

The Minister may name inspectors with the power to inspect, seize and request or take reasonable emergency measures. Nonetheless, as stated by the Minister at the House of Commons:

> "in most cases, these inspectors will be those of the agencies already in existence at the various government levels. There is no

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[193] Except for Explosives, Radioactive Materials and Pesticides, which are covered by their own Acts (**Explosives Act, Atomic Energy Control Act** and **Pest Control Products Act**): 9.8 (1)... (a) every Canadian manufacturer of dangerous goods that offers for transport dangerous goods, or (b) every importer in Canada of dangerous goods, that are in bulk, or are in quantities exceeding 500 kg, shall register with the Director General by providing with the Director General with the information required in Form 1 set out in Schedule IX. SOR/85-77, Gaz. Part II, at 469, as amended by SOR/85-609, Gaz. Part II, at 3011.

[194] Article 23 of the Act.

> question of creating a completely new inspection system for the administration of this act. The cost would obviously be prohibitive."[195]

The Minister may undertake technical research and publication.

5. Offences and Defences

The Act created three new offences. First, the handling, offering to transport and transporting of dangerous goods which do not comply with the regulations (Article 4); second, the packaging and labelling of these goods not in compliance (Article 5); and in case of emergency the non-compliance with a "direction" (Article 6).

Under the Act, a person will not be in violation of the Act "if he establishes that he took all reasonable measures to comply with this Act and the regulations" (Article 8).

This defence of "reasonable measures" was recognized by the Supreme Court of Canada in **The Queen** v. **Sault Ste. Marie.**[196] The City of Sault Ste. Marie had an agreement

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[195] Commons Debates, 32nd Parliament, 1st Session, 2 May 1980, at 673 (Minister Jean-Luc Pépin).

[196] [1978] 2 Supreme Court Reports 1299. See M. Vomberg, **An Overview of International, Canadian, and Alberta Law: Regulating the Transportation of Dangerous Goods** (Edmonton: Environmental Law Centre, 1982) at 47.

with an independent contractor for the disposal of the city's refuse but ended up polluting a creek and a river. The contractor was found to be in violation of Section 32 (1) of the **Ontario Water Resources Commission Act**[197]. The City was also charged and eventually appealed their conviction to the Supreme Court.

The Supreme Court stated in addition two established categories of offences, criminal offences requiring proof of the mens rea, and public welfare offences, only requiring the proof of the actus reus, or absolute liability, there was another category of offences:

> "Offences in which there is no necessity for the prosecution to prove the existence of mens rea; the doing of the prohibited act prima facie imports the offence, leaving it open to the accused to avoid liability by proving that he took all reasonable care. This involves consideration of what a reasonable man would have done in the circumstances. The defence will be available if the accused reasonably believed in a mistaken set of facts which, if true, would render the act or omission innocent, or if he took all reasonable steps to avoid the particular event. Theses offences may be called offences of strict liability.[198]

If the proof of mens rea was required, Parliament would have put the words "wilfully", "with intent", "knowingly" or "intentionally" into the Act. For an offence to be one of absolute liability, the Legislature would have

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[197] Revised Statutes of Ontario, 1970, c. 332.

[198] **The Queen** v. **Sault Ste. Marie** [1978] 2 S.C.R. at 1326.

to make it clear that proof of the act itself establish the offence.

By allowing the offender to prove that he took all reasonable measures, the Legislature has made a deliberate choice, though this does not provide a real protection of the public, which would demand an "absolute liability".

Regina v. Steinberg's Ltd.[199] is an illustration of how courts might use the defence of reasonable measures. Under the **Consumer Packaging and Labelling Act**[200], no dealer shall apply a label containing any false or misleading representations relating to the product to any prepackaged product .[201] The available defence is an absence of knowledge and the exercise of all due diligence.

In this case, an employee had labelled a package of meat "top sirloin" while it was "bottom round". The packager had made an inadvertent error in setting the machine used to imprint on the label. According to the judge, all the steps taken by the company[202] were proof of

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[199] 17 Ontario Reports (2d) 559, 80 Dominion Law Reports (3d) 741 (Ont., Provincial Court (Crim. Div.), 1977).

[200] 1970-71-72, c. 41.

[201] Article 7(1).

[202] "an elaborate scheme of employee training and education as to governmental regulations and requirements, and compliance therewith - this included manuals, oral expositions, direct discussions with affected personnel both as individuals and at group meetings; an on the job site inspection scheme, designed to accustom every employee

its due diligence in the matter and the precautions taken were sufficient:

> "To require the steps taken by the company to absolutely prevent these occurrences under any circumstances whatsoever would go beyond "due" diligence, and would make the company a virtual "insurer" against any error. I do not think that was the intention of the legislation".[203]

It would be possible for a carrier or shipper to be acquitted by saying there was just an inadvertent error in the labelling, since all his staff are well trained!

When tabled as Bill C-53 on 5 May 1978, the Bill provided for a defence only for handling and transport (there was no mention about offering to transport, but packaging and labelling against the regulations was also an offence). The presumed offender had to establish his good faith, with reasonable evidence that the regulations had been complied with, and that the contravention was not caused by or attributable to his acts or omission (Article 5 (3)). With the defence of reasonable measures, the Act provides for a better protection of the potential offender.

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concerned with the marketing of meat to inspect the meat counter at regular and irregular intervals -even directors and senior "head office" personnel of the company were instructed as to this, as of course were store managers, meat managers and meat packers. In my opinion, the accused company, having devised and put into operation this scheme... exercised thereby all due diligence to present the occurrences which took place in the cases at bar." 17 O.R. (2d) at 566.

[203] 17 O.R. (2d) at 566.

C. The Transportation of Dangerous Goods Regulations

Although the Act came into force in 1980, there was a long delay in making regulations. Years later, the **Regulations Respecting the Handling, Offering for Transport and Transporting of Dangerous Goods** were enacted.[204]

1. Annex 18 and the Technical Instructions

a. Implementation

In order for Annex 18 to be implemented in Canada, the Annex and the Technical Instructions have to be adopted under the **Transportation of Dangerous Goods Act**. Article 31 states that the Act prevails in case of a legislative inconsistency.[205] Moreover, the Act gives the power to make regulations to the Governor in Council (Article 21). According to the rule **delegatus non potest delegare**, that is when an act gives a specific authority the power to make

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[204] SOR/85-77, 18 January 1985, Canada Gazette, Part II, 6 February 1985, at 393.

[205] "In the event of any inconsistency between the regulations made pursuant to this Act and any orders, rules or regulations made pursuant to any other Act of the Parliament, the regulations made pursuant to this Act prevail to the extent of the inconsistency."

regulations, the regulations cannot be made by another authority.[206] In practice, this means the Regulations in force in Canada cannot be the Regulations adopted by ICAO from time to time, since the authority to make Regulations is vested in the Governor in Council and may not be delegated.

For practical reasons, the Technical Instructions cannot be adopted. Proximity with the United States obliges the Governor in Council to take into account the U.S. Regulations. In addition, the regulations at the national level cannot keep a pace with the international amendments.

The Instructions were first defined as "the 1984 Technical Instructions", in French as the Instructions "publiées en 1984", and by a 1985 amendment,[207] "the 1985 Technical Instructions". From 1 July 1985 to 1 August 1989, the Technical Instructions in force in Canada have been the 1985 Instructions. The pace of amendments thereafter has been slow. In September of 1986, the Canada Gazette published a notice of modification to the Regulations.[208] In the project, the "Technical

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[206] L.-P. Pigeon, **Rédaction et Interprétation des Lois**, 3rd ed. (Québec: Les Publications du Québec, 1986) at 71.

[207] SOR/85-609, Canada Gazette Part II, 10 July 1985, at 2982.

[208] Canada Gazette Part I, 6 September 1986, at 4140.

Instructions" were defined as the 1986 Technical Instructions.

It is only in January of 1989 that the Canada Gazette updated the definition of the "Instructions" to be the 1989-1990 Instructions published by ICAO,[209] effective on 1 August 1989. The amount of time necessary to adopt a new regulation is reflected in the "Regulatory Impact Analysis Statement" at the end of the new amendment, which says that "[t]he amendment to Part I on Interpretation... updates the definition of "IACO Technical Instructions" (sic!) to reflect its 1987-88 edition" (sic!).[210] Fortunately, "this statement is not part of the Regulations".

While many provisions of the Annex 18 to the Chicago Convention are implemented, nonetheless, differences remain.

Canada sent ICAO the following notification of differences with Annex 18 dated on 10 December 1985:

> "A cursory review of the Canadian standards and regulations for the safe transport of dangerous goods has identified differences and variations with those of Annex 18.
> To this end, a complete review of the Canadian standards and regulations has commenced with the intent of amending them to comply, as appropriate, with those of Annex 18. ICAO will be kept advised of the situation as this review progresses."

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[209] SOR/89-39, 27 December 1988, Canada Gazette Part II, 18 January 1989, at 281.

[210] ibid. at 724.

Even if there are differences, the Technical Instructions are nonetheless recognized as an alternative means of compliance, subject to several conditions.

Paragraph 2.9[211] states that, with many exceptions,[212] the Regulations do not apply to the handling, offering for transport or transportation of an international consignment of dangerous goods, when they are made in accordance with (1) the requirements for classification, documentation, safety marks and packing specifications of the ICAO Technical Instructions, and (2) an authorization issued pursuant to section 800 of the Air Regulations or an operating certificate pursuant to the section 7 of three different orders.[213]

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[211] As replaced by SOR/85-609, Canada Gazette Part II, 10 July 1985, Paragraph 8, at 2989-2990.

[212] With the exception of Part IX on "Safety Requirements for the Training of Persons and for Reporting", of Part X on "Direction", Part XI on "Permits", Part XII on "Appointment of Agents" which obliges a resident outside Canada who ships ("handle, offer for transport or transport dangerous goods destined for Canada, or for any place outside Canada through Canada by any means of transport...") radioactive materials to Canada or through Canada to file with the Minister a notice setting out the name of a resident in Canada, Part XIII on "Inspectors", subsection 2.24 (2) on the carriage by road of dangerous goods that is to be or has been transported by aircraft, subsection 4.4 (2) on the requirement to use the IATA Shipping Document, subsection 4.8 (1)(h) on the emergency response plan, and sections 7.15 to 7.19 on the Emergency Response Assistance Planning.

[213] The Air Carriers Using Large Aeroplanes Order, Air Carriers Using Small Aeroplanes Order, or Rotorcraft Air Transport Operations Order.

b. Shipping Document

Surprising enough, the Regulations provide in Paragraph 4.4 (2), that where the dangerous goods are to be transported by aircraft, "the shipping document referred to... shall be the "Shipper's Declaration of Dangerous Goods" set out in section 8 of the IATA Dangerous Goods Regulations." Paragraph 4.8 (2) adds that the shipping document referred to in 4.4 (2) shall contain all the information requested by the "Shipper's Declaration for Dangerous Goods" "in accordance with the ICAO Technical Instructions".

The Instructions do not provide a sample shipper's document, so this may explain why the Canadian Regulations refer to two sets of instructions to complete this document. When the Government amended Paragraph 2.9 to specify the circumstances under which the ICAO Technical Instructions might be followed in place of the Canadian Regulations, exceptions to Instructions included Paragraph 4.4 (2), which provides for the use of the IATA Shipping Document.

The consignor, carrier and consignee shall retain a copy of the shipping document for a period of two years, which is equivalent to the two-year limitation period in the Warsaw Convention (Article 29).

D. Statute as a Standard of Care

There is no Canadian case on whether a violation to the **Transportation of Dangerous Goods Act** would be a breach of a standard of care leading to a case of negligence in a civil court. The Supreme Court decision in **R. in right of Canada v. Saskatchewan Wheat Pool**,[214] is a useful guide since it "has evinced some bold leadership recently in an effort to dissipate the fog that has enveloped this area of the law."[215]

According to the Court, the breach of a statute should be considered in the context of the law of negligence generally. It concluded that:

> "1. Civil consequences of breach of statute should be subsumed in the law of negligence.
> 2. The notion of a nominate tort of statutory breach giving a right to recovery merely on proof of breach and damages should be rejected, as should the view that unexcused breach constitutes negligence per se giving rise to absolute liability.
> 3. Proof of statutory breach, causative of damages, may be evidence of negligence.
> 4. The statutory formulation of the duty may afford a specific, and useful, standard of reasonable conduct."[216]

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[214] [1983] 1 S.C.R. 205; the defendant had given infested wheat to the plaintiff while the **Canada Grain Act** forbade the discharge from an elevator any grain that is infested or contaminated.

[215] A. M. Linden, **Canadian Tort Law**, 4th ed. (Toronto: Butterworths, 1988) at 183.

[216] [1983] 1 S.C.R. at 227 and 228.

Violations of the Act could be considered as violations of a standard of reasonable conduct.[217]

E. The Canadian Criminal Code

The Canadian Criminal Code contains sections relating to the carriage of dangerous goods. Section 76.3 (1) makes it a crime to put offensive weapons or any explosive substance on board a civil aircraft. Section 77 provides: "Every one who has an explosive substance in his possession or under his care or control is under a legal duty to use reasonable care to prevent bodily harm or death to persons or damage to property by that explosive substance." Section 359 (1) prohibits obtaining transport of anything by means of a false representation where the transportation of it is unlawful.

Even with the existence of the **Transport of Dangerous Goods Regulations**, the provisions of the Criminal Code have

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[217] As far as the Québec Civil Law is concerned, the Supreme Court said in **Morin c. Blais** ([1977] 1 S.C.R. 570) that violations of regulations which lay down elementary standards of care constituted civil fault: "Breach of such regulations constitutes civil fault. In cases where such fault is immediately followed by an accident which the standard was expressly designed to prevent, it is reasonable to presume that there is a casual link between the fault and the accident, unless there is a demonstration or a strong indication to the contrary", at 580. See P.-G. Jobin, **La Violation d'une Loi ou d'un Règlement Entraîne-t-elle la Responsabilité Civile ?** (1984) 44 Revue du Barreau (Janvier-Février) 222.

their utility. **Rex v. Michigan Central R.R. Co.**[218] of 1907 illustrates a case where an explosion had occurred in a wagon full of explosive but the Board of Railway Commissioners had declined to allow a prosecution under the **Railway Act**,[219] since there were placards showing that the car was laden with high explosives. The railway company was then charged under the criminal code for its lack of reasonable care while it was in charge and control of the explosives.

The judge rejected the argument that the shipment was itself defective:

> "Railway companies are, for the benefit of the public, granted extraordinary powers, and they must be held to a strict account as to the manner in which they perform the services for the performance of which they are granted such powers. They must be held to know that sometimes explosives, like every other commodity, are not very well made, but defective, and they must entirely satisfy themselves of the safety of what they carry, or use other means for the protection of the public."[220]

The railway company was condemned to a fine of $ 25,000.

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[218] (1907) 10 Ontario Weekly Reporter 660.

[219] Its permission was requested under the Act: Section 431 (4) of the R.S.C., 1906, c. 37.

[220] (1907) 10 O.W.R. at 667.

F. Constitutional Problems

Canada is a federation of 10 Provinces, each having its own legislative powers within its jurisdiction.

While aviation falls under the federal jurisdiction of the Canadian Parliament, provincial legislatures have a residual power over the carriage of certain dangerous goods, even where the carriage is also under federal jurisdiction.

In **Regina v. TNT Canada Inc.**[221], a carrier which had transported by truck PCBs[222] waste between two provinces (Alberta and Ontario) was charged under the Ontario **Environmental Protection Act**[223] for the management of PCBs without a certificate of approval as required by the regulations. Such a certificate is granted if, inter alia, the applicant shows a certificate of insurance confirming $ 1 million of liability coverage.

The carrier, whose regular business consisted primarily of interprovincial and international motor transport, stated, in its defence, that interprovincial

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[221] 58 Ontario Reports (2d) 410, 37 Dominion Law Reports (4th) 297, (Ct. of App., 1986), appeal to the Supr. Ct. dismissed, 61 Ontario Reports (2d) 480.

[222] Polychlorinated Biphenyl.

[223] Revised Statutes of Ontario 1980, c. 141 and Ontario Regulations 11/82, s. 6(a).

traffic was under federal jurisdiction, and therefore the charge was an ultra vires application of the legislation. The legislation was being applied to an undertaking over which the Parliament of Canada had "exclusive" legislative jurisdiction.

The Court of Appeal rejected this argument, stating first of all, "the legislation has been enacted from the interrelated provincial aspects regulating these of the provincial highways for the protection of the environment (land, air, water) and for the safety, health and welfare of the province's residents."[224] In addition, at the time of the hearings, there was no federal legislation on the subject of PCBs. And though this was not relevant to the case, federal regulations of 1986[225] on the carriage of PCBs did not conflict with the provincial regulations. Consequently, the general application of the provincial Act to all transportation within the province did not render its application to interprovincial transport ultra vires.

G. Canadian Environmental Protection Act

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[224] 37 D.L.R. (4th) at 303.

[225] SOR/86-526, Canada Gazette Part II, 24 June 1986, at 2181.

On 5 May 1988, the Parliament adopted the **Canadian Environmental Protection Act**,[226] which obliges the person who imports, transports, etc., a substance and obtains information that reasonably supports the conclusion that the substance is toxic to inform the Minister of the Environment.[227]

The Governor in Council may make regulations with respect to a toxic substance providing for or imposing requirements respecting the manner in which and conditions under which the substance or a product or material containing the substance may be stored, displayed, transported or offered for transport.[228]

In case of the release of toxic substances, any inspector may enter and have access to any place or property and may do such reasonable things as may be necessary in the circumstances.[229] The Government may recover from the owner of the substances the costs and expenses of and incidental to taking any measures and, to the extent that the owner's negligence did not cause or contribute to the release, the person who causes or contributes to the initial release.[230]

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[226] 1988 S.C., c. 22 (Bill C-74).

[227] Article 17.

[228] Article 34(1)(o).

[229] Article 36(7).

[230] Article 39.

No "Superfund" is provided for.

CHAPTER III

LIABILITY

I. THE DIFFERENT STEPS OF THE AIR CARRIAGE

A. Before a Carriage under Common Law

In common law, an air carrier is a common carrier and, as such, has "a duty to carry the goods being tendered to him as general cargo"[1] and is also called an insurer, that is, he is "responsible for delivering in like order and condition at the destination the goods bailed to him for carriage"[2].

The U.S. **Federal Aviation Act** requires that the air carrier hold a certificate to engage in any transportation.[3] The Act defines interstate, foreign, overseas and intrastate

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[1] **Bamfield v. Goole and Sheffield Transport Co., Ltd.** [1910] 2 K.B. 94 at 107.

[2] **Canadian Co-operative Wheat Producers, Ltd. v. Paterson Steamships, Ltd.** 1934 A.C. 538, 49 L.L.Rep. 421 (in appeal of the Quebec King's Bench).

[3] § 401(a) [49 USCS 1371(a)].

"air transportation" as "the carriage by aircraft of persons or property as a common carrier..."[4]

The fact that a carrier refuses to carry dangerous goods does not change his legal status and obligations as a common carrier.

In **Great Northern Railway Co. v. L.E.P. Transport and Depository, Ltd.**[5], a railway carrier had stipulated in his general conditions of carriage that the goods were to be carried at carriers' risk and that the company gave notice "that they do not, except on special conditions, undertake the carriage of... dangerous articles."[6]

A forwarding agent had given the carrier packages of hydrogen peroxide solution which were not securely packed. A shipment of felt hoods was damaged by leaks of the solution during the carriage. The court said that it was possible for a common carrier to limit his liability for certain goods and to remain a common carrier for the other goods. The carrier was found by the court liable, as an insurer, for loss of the felt hoods, in addition the

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[4] § 101(24) and (26) [49 USCS § 1301(24) and (26)].

[5] **Great Northern Railway Co. v. L.E.P. Transport and Depository, Ltd.** [1922] 2 K.B. 742.

[6] ibid. at 745.

carrier had a claim against the shipper of the dangerous goods to indemnify him for the damages.[7]

In **Delta Airlines Inc. v. C.A.B.,**[8] the appeal court said:

> "air lines that hold themselves out to serve only a certain class of the public (shippers who do not ship dangerous articles) and to carry only a limited class of cargo (nonhazardous materials) are nonetheless "common carriers" under common law. The essential element is to offer to transport anything for anyone within the limitations specified. To be sure, however, the extent to which the airline carriers of today have a right to delineate what they will carry and for whom depends not only upon their common law responsibilities as common carriers, but also upon the statutory obligations and regulatory powers created by the Federal Aviation Act."[9]

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[7] (Scrutton, L.J.): "I find that it [the contract of carriage] draws a distinction between goods which the company does and those which it does not undertake to carry. I find nothing inconsistent with the company remaining liable to insure as common carriers according to the custom of the realm, except in so far as their liability is modified by the general conditions. There is no condition general or special excluding the liability of the company for damage done to goods of one owner by goods of another owner which the company are carrying as common carriers", ibid. at 768.

[8] **Delta Airlines Inc. v. C.A.B.** 543 F.2d 247 (D.Columbia Cir., 1976).

[9] ibid. at 259.

1. The Common Carrier's Freedom to Accept or not Dangerous Goods

As far as dangerous goods are concerned, "[a]t common law it is clear that no carrier could be compelled to carry such goods as these, dangerous in their nature. Common carriers "are not bound to receive dangerous articles such as nitroglycerine, dynamite, etc."."[10]

The carrier's freedom not to accept to carry dangerous goods has been restricted by regulations and cases.

a. Interpretation of the Danger

In **North-Eastern Railway Co. v. Reckitt and Sons (Ltd)**, the Railway and Canals Commission[11] decided whether a railway carrier's claim that "liquid metal polish" was a dangerous product within the law[12] in order to be able to charge a special rate thereon was appropriate. The product was neither in the classification section of the schedule

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[10] **R. v. Michigan Central R.R. Co.** [1907] 10 O.W.R. 660 at 662.

[11] 29 T.L.R. 573, 109 L.T. 327, 15 Ry. & Can. Tr. Cases 137 (1913, Railway and Canals Commission, U.K.).

[12] Part IV of the Schedule of Maximum Rates and Charges attached to the **North-Eastern Railway Rates and Charges Order Confirmation Act**, 1892, 55 & 56 Victoria, c. 53.

nor in the act itself, and no definition was given for the word "dangerous".

The Commission said that the carrier had that power to decide what was dangerous or not, because of the discretion given to him by the Railway Act:[13]

> "inclusion of particular goods in the statutory classification is not inconsistent with a power in the railway company of declaring them to be dangerous, as the classification of these goods may very well have been made upon the footing that the goods were goods which the railway companies were justified in treating as dangerous goods, but not so dangerous in fact but that they might properly be included in one or other of the specified classes."[14]

Nevertheless, this discretionary power was not absolute:

> "They must, of course, exercise the discretion vested in them with absolutely good faith, and not for the indirect purpose of obtaining charges which they could not otherwise obtain."[15]

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[13] Section 17 of a Railway Act of 1845 said: "No person shall be entitled to carry... any other Goods which in the Judgment of the Company may be dangerous of nature." **Railways Clauses Consolidation Act (U.K.)**, 1845, 8th & 9th Victoria, c. 20, s. 105.

[14] 29 T.L.R. at 575.

[15] ibid. at 577.

b. Air Line Tariffs more Stringent than Regulations

Air carriers had difficulty in getting federal agencies to recognize their right to determine which dangerous goods they could carry or not. The Civil Aeronautics Board's position was consistent with this principle:

> "The Board must defer to the positions of DOT/FAA to the effect that freight which complies with FAA regulations must be accepted for carriage by the carriers"[16].

On 5 April 1974, on a flight between Washington and Atlanta, a container holding radioactive products was found to have been badly shielded. An airline representative contacted the passengers to inform them of the problem and to ask them to get a medical check-up. On 7 August 1974, Delta Airlines decided to submit an amendment to its tariffs filed with the CAB to the effect that, beginning on September 6, it would accept radioactive materials for carriage only if the shipper certified in writing that those materials are (1) intended to be administered to humans for diagnostic or therapeutic medical purposes; (2) to be used in the analysis, for medical purposes, or biological materials from humans; or (3) essential to the conduct of

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[16] CAB Order 75-4-75 at 7.

medical research having direct application to human medical welfare.

Delta also reserved the right to refuse to carry packages which have a "transport index" of more than 5.0[17]. It argued, among other things, that:

> "experience had demonstrated that current Federal Regulations are not and cannot be enforced in such a manner as to provide assurance that shippers will properly package such shipments, that by reducing the number of packages of radioactive materials carried on aircraft, the probability of further incidents is significantly reduced; and that air transport is the least desirable mode of transportation for radioactive materials with regard to exposure of the public to unnecessary radiation."[18]

The CAB rejected the new tariffs, saying that "the proposal is considerably more stringent than either existing provisions or recommended revisions of the FAA's regulations concerning the special requirements for radioactive materials transported by air."[19]

Carriers which had filed such tariffs, such as Eastern Airlines,[20] Frontier Airlines[21] and Allegheny

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[17] "According to the tariff, Transport Index is a measurement of the maximum radiation close rate, the number of millirems per hour or equivalent, at a distance of 40 inches from the centre", CAB Order 74-9-14 at 1 note 2.

[18] CAB Order 74-9-14, at 2.

[19] ibid.

[20] CAB Order 75-1-124.

[21] CAB Order 75-2-105.

Airlines[22] received the same answer. TWA's tariff revisions on fissile materials were rejected on the following basis:

> "The carrier's present tariff, in general conformity with DOT regulations, indicates the manner in which fissile materials in various classes are to be packed and shipped and we believe that TWA's common carrier responsibilities require that the airline accept such shipments under those conditions."[23]

According to the CAB, the tariffs must conform with the DOT/FAA regulations, as the regulations obliged the tariffs to contain the rules and regulations "relating to the transportation of explosives and other dangerous or restricted articles, showing the articles which are not acceptable... as well as those articles which are acceptable... All such provisions shall be in conformity with Part 103 of the Federal Regulations.. including those portions of the Interstate Commerce Commission for Transportation of Explosives and Other Dangerous Articles..."[24]

The air lines appealed the CAB decision. According to the **Federal Aviation Act**, the CAB could only prevent a

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[22] CAB Order 75-3-13.

[23] CAB Order 74-6-77 at 4.

[24] 14 Code of Federal Regulations § 221.38(a)(5). This section was deleted on 4 August 1978, after the DOT issued its massive reorganization and recodification of the **Hazardous Materials Regulations**, 49 C.F.R. §§ 170-189, effective 1 July 1976. 43 Federal Register 34442, 4 August 1978.

tariff from going into effect by following the suspension and investigation procedures of section 1002.[25] The Court upheld the appeal, for the Board had merely rubber stamped the FAA/DOT position on safety "and avoided completely its responsibilities in such areas such as economics, common carrier responsibilities, and public interest".[26] The Board could not to determine and prescribe the rules and regulations to include in tariffs without first giving notice and holding hearings.[27]

Moreover, the Court wrote that the Transportation Safety Act of 1974 (whose Title I is the **Hazardous Materials Transportation Act**),[28]

> "grants additional authority to the Secretary of transportation over the safe transportation of hazardous materials, but, importantly, it does not give the Secretary or the CAB any authority to require the transportation of such materials."[29]

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[25] 49 USCS § 1482.

[26] **Delta Air Lines v. C.A.B.** 543 F.2d (1976) 247 at 269.

[27] ibid. at 267.

[28] Act of January 3, 1975, Public Law 93-633, 88 Stat. 2156.

[29] ibid. at 255. Few years later, another court recognized the power of the Interstate Commerce Commission, which had jurisdiction on railroads, to allow more stringent regulations than the DOT ones: "while DOT and NRC have exclusive authority to promulgate **industry-wide** standards for the carriage of radioactive materials, the ICC may allow individual carriers to make more (but not less) stringent rules for their own carriage of hazardous materials." **Akron v. I.C.C.** 611 F.2d 1162 at 1170 (6th Cir., 1979).

c. Embargo

Tariffs were not the only initiativeof the air transportation industry took to protect itself against hazardous materials.

(1) ALPA Programs and the CAB

Pilots sitting at the front of the aircraft have always been aware of the dangers of hazardous materials. In the beginning of the seventies ALPA (the Air Line Pilots Association) conducted a study which showed that nine out of every ten shipments of hazardous materials were illegal.[30]

After the November 1973 Pan Am crash at Boston, ALPA introduced a ten-point program for control of hazardous materials, the two first points being:

> (1) hazardous materials should be banned from passenger-carrying aircraft, with the following exceptions: (a) radioactive pharmaceuticals that are processed and ready for delivery to a patient, and transported only in minimum-risk packaging; (b) dry ice used to refrigerate perishable goods, and (c) magnetic materials when packaged and loaded in accordance with applicable regulations;
> (2) hazardous materials should be carried exclusively in all-cargo aircraft, but limited

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[30] "Cargo Rules Invite Disaster, ALPA Charges" Air Line Pilot (June 1973) 18.

> to those commodities and amounts now acceptable for passenger aircraft.[31]

Though the Hazardous Materials Transportation Act was enacted on 3 January 1975, when ALPA saw that the DOT would not prohibit the transport of hazardous materials on passenger flights, ALPA decided to act.

On 1 February 1975, ALPA initiated a program, called STOP (Safe Transportation of People), "which effectively barred from all passenger aircraft, and to some extent cargo planes, all hazardous and dangerous materials as defined in existing FAA and DOT regulations; under the STOP program, ALPA pilots would not fly any planes on which hazardous materials were carried,"[32] with some exceptions.

Before February 1975, a certain number of airlines had filed notices of embargo pursuant the regulations,[33] in which they announced their refusal to carry hazardous materials, not only because they were not satisfied with the enforcement of safety regulations, but also because of their inability to carry such materials after the refusal of ALPA members in accordance with STOP.

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[31] C. V. Glines, "Pilots Call It Murder" Air Line Pilot (July 1974) 11.

[32] **Air Line Pilots Association v. Civil Aeronautics Board** 13 Avi. 17,851 at 17,852 (2nd Cir., 1975).

[33] 14 C.F.R. § 228.1 et seq.

The notices of embargo were rejected by the CAB on 28 February 1975,[34] not only because they were in complete divergence from FAA regulations on hazardous materials but also because they were against the CAB regulations concerning embargoes:

> "The Board's embargo regulations specifically provide that they shall not be construed as relieving any carrier of any duty otherwise imposed upon it to furnish authorized transportation service or to observe all requirements of the Federal Aviation Act, and the rules and regulations thereunder"[35].

ALPA asked to the CAB to reconsider its decision, for it considered that section 1111 of the FAA Act gave carriers a statutory right to refuse to carry on a flight that which is not safe.[36]

In its answer, the CAB stressed the first words of section 1111: "Subject to reasonable rules and regulations prescribed by the Administrator,...".[37] The DOT said that this section did not allow carriers to refuse to carry

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[34] CAB Order 75-2-127.

[35] ibid. at 3.

[36] 49 USCS § 1511(a): "... Subject to reasonable rules and regulations prescribed by the Administrator, any such carrier may also refuse transportation of a passenger or property when, in the opinion of the carrier, such transportation would or might be inimical to safety of the flight."

[37] CAB Order 75-3-61 at 2. At 3: "Congress intended any carrier refusal to transport property for safety reasons to be subject to reasonable rules and regulations prescribed by the FAA Administrator."

dangerous materials which were in accordance with the regulations of DOT/CAB. According to the CAB,

> "the FAA administrator having thus preempted this area of regulation, no basis remains to conclude that carriers are free to pick and choose their traffic"[38]... [the] "embargo would prohibit carriage of many items necessary for medical or other important purposes and were in derogation of the airlines' common carrier obligation to carry, and their statutory obligation to provide adequate service... the Board considers that a carrier's refusal to carry traffic tendered in accordance with the safety regulations is inconsistent with its... duties assumed in the acceptance of a certificate fo public convenience and necessity."[39]

ALPA asked the Court of Appeals to determine the legality of the CAB decision. The CAB rejected the other notices of embargo on the following basis:

> "Embargo Regulations are not available to carriers for their declarations to the shipping and consuming public as to what freight they will thereafter refuse to carry. Its application is limited to a carrier, temporary inability to accommodate traffic it acknowledges it would be obligated, but for the inability, to carry[40]... Even in situations where applicable, the Board's Embargo Regulations specifically provide that they shall not be construed as relieving any air carrier of any duty otherwise imposed upon it to furnish authorized transportation service or to observe all requirements of the Federal Aviation Act and the rules and regulations thereunder."[41]

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[38] ibid. at 3.

[39] ibid. at 2.

[40] CAB Order 75-4-75 at 6.

[41] ibid. at 7.

(2) The Court of Appeals Decision

The Court of Appeals stated that ALPA proved "rather convincingly that the regulatory scheme has been a dismal failure,"[42] in that shippers failed to comply with regulations for a number of reasons, either the complexity of the regulations, ignorance of their existence or perhaps because shippers were overloaded. The DOT argued that the law gave it exclusive jurisdiction to regulate the carriage of dangerous goods by air and that the carriers were precluded from enacting ad hoc regulations, in violation of their common carrier duties. Furthermore, these regulations would unjustly discriminate against certain goods which would not be accepted for carriage.

Unfortunately, the Court said that the sole issue it had to decide an issue which was primarily procedural, whether the CAB Order rejecting the air line embargoes was properly issued. The Court stated that if carriers wanted to object to existing regulations, "the appropriate remedy is carrier participation in a rule-making procedure, which, on the record before us, the carriers have utterly failed to seek."[43]

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[42] **Air Line Pilots Association v. Civil Aeronautics Board** 13 Avi. 17,851, 516 F.2d 1269 at 1271 (2nd Cir., 1975).

[43] 13 Avi. at 17,854, 516 F.2d at 1274.

After having said that the legality of the STOP operation was not before the Court, the latter remarked that a large quantity of dangerous freight was, presumably, unlabelled or unmarked. The STOP operation would "only penalize those who obey the regulations and properly package and label their materials. In fact, they may encourage evasion of regulations, which is hardly in the interest of air safety."[44]

With respect, the author does not share this opinion. If one argues that we should not prohibit anything because we end up penalizing those who comply with the regulations, then nothing would be prohibited! The label on a package is not the only way of knowing its content. In cases of doubt, it may always be opened.

In this case, the Court also noted the fact that, in **Williams v. Trans World Airlines**,[45] an air carrier was allowed to refuse carriage to a person who "would or might be inimical to safety of flight"[46], but the Court said that it was not supportive of an embargo of all materials marked and labelled as hazardous in accordance with existing regulations, which is not in conformity with § 1111(a).

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[44] 13 Avi. at 17,855, 516 F.2d at 1277.

[45] 509 F.2d 942, 13 Avi. 17,482 (2nd Cir., 1975).

[46] 509 F.2d at 948. In tnat case, the passenger was dangerous and had propensity for violence, a criminal background and a history of mental instability.

Nonetheless, carriers are allowed to make "an ad hoc determination that some particular freight for some specific reason presents a peril to safe flight", "under the factual pattern exemplified by **Williams**".[47]

d. Hazardous Articles Rules and Practices Investigation

In 1977, members of the Air Transport Association and other participating carriers proposed a thorough revision of the hazardous materials tariff, adoption of the DOT Regulations by reference (49 CFR Part 170-189) and the publication of only the more restrictive carrier-imposed regulations on the transportation of hazardous materials.

While the court in **Delta Air Lines v. C.A.B.**[48] had said that the **Hazardous Materials Transportation Act** did not compel the air lines to carry the hazardous materials and that the CAB had the responsibility to consider the economic aspects of the tariffs presented, on 23 June 1977 the CAB instituted the "Hazardous Rules and Practices Investigation",[49] which considered **inter alia** "whether rules on acceptance of hazardous materials that are more

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[47] 13 Avi. at 17,855.

[48] 543 F.2d 247 (1976).

[49] CAB Order 77-6-116, Docket 31044.

restrictive than DOT requirements violate the carriers' duty to provide service upon requests."[50]

The CAB also investigate the lawfulness of surcharges levied by carriers on restricted articles, i.e. "whether those charges are unduly discriminatory, unduly preferential or prejudicial, predatory or otherwise unlawful".[51]

When the **Airline Deregulation Act** became effective on 24 October 1978 the CAB liberalized its policy on tariffs.[52] The Investigation ended since carriers did not have to explain the fairness of their tariffs before the Civil Aeronautics Board.[53]

An examination of the railroads industry indicates the decision the CAB would probably have made had its Investigation continued. Railroads have also tried to "regulate" the carriage of dangerous goods by their tariffs. In the 1960s and 1970s, many railroads abstained

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[50] 43 Federal Register 20830, 15 May 1978.

[51] ibid.

[52] ER-1080, 43 Federal Register 53631, 16 November 1978.

[53] "The main purpose of the investigation was to consider various carrier tariff rules regarding acceptance of hazardous or restricted articles and to determine if carrier surcharges for transportation of such articles were lawful. Section 291.31 of the regulations (14 C.F.R. 291.31) exempts, with respect to cargo, all carriers from both the tariff filing requirement of section 403 of the Act and the duty to carry requirement of section 404. In these circumstances, it is simply no longer in the public interest to continue the investigation." CAB Order 80-10-15 at 2, 2 October 1980.

from listing the rates for carriage of nuclear materials in their tariffs. They preferred to carry those materials under specific contractual arrangements with individual shippers.

In 1978, the Interstate Commerce Commission required railroads "under their common carrier duty to handle the involved commodities and to publish reasonable and otherwise lawful tariff provisions concerning such transportation".[54]

The railroads submitted tariffs but shippers filed objections that claimed they were unreasonably high. The railroads argued that special trains were required, with higher prices. The Commission answered that it was not prepared to allow carriers to require a service which was several times more costly than regular service without any commensurate safety benefits. The special train requirement was considered to be wasteful and an unreasonable practice.[55]

The Court of Appeals confirmed the decision of the Commission::

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[54] **U.S Energy Research and Development Administration v. Akron, Canton and Youngstown Railroad Co.** 359 ICC 639 (1978), aff'd sub nomine **Akron, C. & Y.R. Co. v. I.C.C.** 611 F.2d 1162 (6th Cir., 1979), cert. den. 449 U.S. 830, 101 S.Ct. 97, 66 L.Ed.2d 34 (1980).

[55] **Trainload Rates on Radioactive Materials, Eastern Railroads** 362 ICC 756 (1980), quoted in **Consolidated Rail Corp. v. I.C.C.** 646 F.2d 642 (D.Col. Cir., 1981) at 645.

> "The mere assertion of safety as justification for any particular expenditure by a railroad company is not conclusive upon the Commission's judgment of the reasonableness of that expenditure or the tariff based upon it[56]... The railroads may indeed seek to prove the reasonableness of additional safety measures, but the burden is upon them to show that, for some reason, the presumptively valid DOT/NRC regulations are unsatisfactory or inadequate in their particular circumstance."[57]

In conclusion, if a carrier is not obliged to carry hazardous materials, the airline operator has the statutory duty to accept only those hazardous materials which conform with a list of specific legal requirements.[58]

2. Consignor's Legal Duties

Since the common carrier has to carry the category of goods tendered to him which he has held himself out as prepared to carry, the shipper has the duty to inform him that the goods could be of a dangerous nature, and to guarantee that they are safe to be carried. These legal duties are not new.

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[56] 646 F.2d at 648.

[57] 646 F.2d at 650.

[58] For example 49 C.F.R. § 175.30(a).

a. The Common Law Duty

(1) The United Kingdom

In **Brass v. Maitland,**[59] a classic case, a shipper had given the master of a general ship 60 casks of chloride of lime, an article of corrosive and dangerous nature, but said that it was bleaching powder. It was not known by the crew that the bleaching powder contained this corrosive product and that it was not sufficiently packed. The product escaped from the casks, and corroded and destroyed other goods.

According to the majority decision, the shipper's duty, in theory, would be absolute:

> "Where the owners of a general ship undertake that they will receive goods and safely carry them and deliver them at the destined port, I am of opinion that the shippers undertake that they will not deliver, to be carried in the voyage, packages of goods of a dangerous nature, which those employed on behalf of the shipowner may not on inspection be reasonably expected to know to be of a dangerous nature, without expressly giving notice that they are of a dangerous nature."[60]

So, even if the shippers were ignorant of the

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[59] 119 E.R. 940, 6 E. & B. 480 (K.B.Div., 1856).

[60] 119 E.R. at 944.

dangerous quality of the goods, they, not the shipowners, would sustain the loss.[61]

Nonetheless, the majority tempered their "absolute duty", by concluding that in this particular case, "the shippers were justified in acting upon the supposition that the master... did know what "he reasonable might and could and ought to have known""[62], that is the fact that bleaching powder contained chloride of lime. Thus the loss arose from the master's breach of duty in having accepted the product!

According to the dissent of Justice Crompton, the shipper's duty was more limited. His opinion has been followed in the subsequent cases. He wrote:

> "Probably an engagement or duty may be implied, that the shipper will use and take due and proper care and diligence not to deliver goods, apparently safe, but really dangerous, without giving notice thereof; and any want of care in the course of the shipment in not communicating what he ought to communicate might be negligence for which he would be liable: but, where no negligence

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[61] "Although those employed on behalf of the shipowner have no reasonable means during the loading of a general ship to ascertain the quality of the goods offered for shipment, or narrowly to examine the sufficiency of the packing of the goods, the shippers have such means; and it seems much more just and expedient that, although they were ignorant of the dangerous quality of the goods or the insufficiency of the packing, the loss occasioned by the dangerous quality of the goods and the insufficient packing should be cast upon the shippers than upon the shipowners." ibid. at 945.

[62] ibid. at 946.

> is alleged, or where the plea negatives any alleged negligence, I doubt extremely whether any right of action can exist."[63]

He added that the master's personal knowledge and means by which the master might come to possess such knowledge would be no excuse for the failure to communicate this knowledge to the employees of the ship, particularly if the master was not the party generally involved in the shipping and embarking or stowing of these goods.

Both the majority and the dissident were of the opinion that, in this particular case, the duty to inform was not absolute. The former concluded that the master should have known, the latter stated that the shippers' negligence had to be proved.

Justice Crompton's dissent was relied upon in Hutchinson v. Guion[64], which rejected the shipper's argument that the master should have known that the product was dangerous.[65] According to Justice Farwell in Bamfield v.

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[63] ibid. at 948: "It seems very difficult to hold that the shipper can be liable for not communicating what he does not know."

[64] 141 E.R. 59 (Common Bench, 1858).

[65] ibid. at 65: "The plaintiffs deliver to the defendants an article which they know to be likely to cause injury to other goods with which it may come in contact, as well as to itself; and they deliver it to the mate of the defendants' vessel without communicating to him the fact that it is of a nature to be likely to cause injury; and injury does result. It is no answer for the plaintiffs to say that the defendants might and ought to have known,- the article being well known in commerce,- that it possessed

Goole and Sheffield Transport. Co., Ltd[66], the shipper must be taken to have impliedly warranted that the goods were fit for carriage though the carrier and the shipper were not contracting on equal terms:

> "But, if one party is bound by law to act on the request of the other, and is not even entitled to inquire and compel an answer as to the contents of packages tendered, it is in my opinion only reasonable to imply a warranty by the person so enforcing his common law right that the packages tendered are not dangerous."[67]

(2) Canada

The Canadian case of the **Erwin Schroder**[68] dealt with the obligations of the owner of a vessel who undertakes to stow, transport and deliver wet copper concentrate, which, because of its moisture content:

> "was carried and stowed in holds divided by shifting boards erected according to port warden's instructions, and to his satisfaction, substantially in accordance with a Code issued by the Canadian Department of Transport but which cargo, because of its peculiar characteristic unknown to the carrier of liquefying in a heavy sea, turned out to be

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those deleterious properties."

[66] [1910] 2 K.B. 94

[67] ibid. at 119.

[68] **Heath Steel Mines Ltd. v. The "Erwin Schroder"** 1970 Ex.C.R. 426.

dangerous to the life of the ship and its crew"[69].

It is interesting to note that three expert witnesses versed in shipping matters "did not know and swore that no such physical change from solid to viscous was possible".[70] While the logical conclusion is that the carrier of that cargo could not have known what most of the experts in shipping matters did not know, that is the danger of carrying such cargo, the court concluded that the shipper was guilty of a clear breach of duty in failing to inform the carrier of the danger involved in transporting this cargo on the high sea.[71]

The Air Regulations of 1938 established a shipper's duty to inform the carrier when he sent explosives. An amendment of 1954 added "other dangerous articles or

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[69] ibid. at 450.

[70] ibid. at 468.

[71] Normally, the court will say that the carrier knew or should have known the characteristics of the hazardous product and it will be no excuse for the carrier to say that the shipper should have told him. For example, in **Produits Alimentaires Grandma Ltée. v. Zim Israel Navigation Co.** ([1987] 8 Federal Trial Reports 191), the consignees refused the shipment of pepper due to spoilage caused by moisture damage. For the court, it was not true to say that the party who has access to the information had the burden of proof and that it was up to the shipper to prove the good condition of the shipment, since it was received under a clean bill of lading, which meant prima facie that the goods were in good conditions.

substances".[72] This provision is still in force, at Paragraph 800 (2) of the **Air Regulations**.[73] The **Transportation of Dangerous Goods Regulations** add that no person shall offer for transport dangerous goods unless they are documented in accordance with the Regulations.[74]

(3) The United States

Several earlier American cases establish the same principles. In **Boston** v. **Shanly**[75], the shipper was found to have the duty to notify the carrier of the dangerous nature of the article such that the carrier "may either refuse to

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[72] P.C. 1954-1821, SOR/54-588, adopted on 23 November 1954, Paragraph 800 (1), Canada Gazette Part II, 8 December 1954, at 2108.

[73] "No person shall send or take upon an aircraft any explosives or other dangerous articles or substances without distinctly marking their nature on the outside of the containers thereof or otherwise giving notice thereof to the person in charge of the aircraft, or the person whose duty it is to receive such goods on board." Subsection (3) adds that Subsections (1) and (2) do not apply to substances necessary for the operation of aircraft or for the safety of the crew or passengers.

[74] S. 4.1 as amended by SOR/85-585, 21 June 1985, Canada Gazette Part II, 10 July 1985, at 2938.

[75] 107 Mass. 568 (1871)

take it, or be enabled if he takes it, to make suitable provision against the danger."[76]

According to the court, "the duty does not arise from any contract, express of implied, but from the principle expressed in the maxim Sic utere tuo ut alienum non laedas"[77], or in other words, use your property on the condition that you do not prejudice someone else's property. The court illustrated this principle through two cases dealing with the liability of the seller of a dangerous product.[78]

The facts in **Boston** v. **Shanly** are interesting, as there were two shippers involved. The consignee had ordered two different dangerous products (one compound contained nitro-glycerine, the other exploders) from two manufacturers, which were tendered by them separately to the same railroad carrier.

The first manufacturer declared the products were safe and not of a dangerous character. The other packed its products in an improper and dangerous manner, and gave no

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[76] ibid. at 576: "One who has in his possession a dangerous article, which he desires to send to another, may send it by a common carrier, if he will take it; but it is his duty to give him notice of its character, so that he may either refuse to take it, or be enabled, if he takes it, to make suitable provision against the danger."

[77] ibid. at 576.

[78] ibid. at 576 and 577. **Carter** v. **Towne** 98 Mass. 567 and **Wellington** v. **Downer Kerosene Oil Co.** 104 Mass. 64.

notice of their dangerous nature. An explosion occurred during the carriage, each product causing the other to take fire and to explode. Both manufacturers contended that they could not be joined in one action for the damage as they had acted independently.

The court decided that they were jointly liable:

> "...each party violated his duty none the less because he was ignorant as to what other articles were to be carried in the same car with his. By neglecting to give the notice, he took the risk of any danger that might reasonably be apprehended from the proximity of other goods that the carriers might take in ignorance of the danger".[79]

Another U.S. decision had an important influence on later cases. **Pierce** v. **Winsor**[80] dealt with the carriage of what was then (1858-59) a new product, mastic, which, during the carriage, leaked and caused damages.

Neither the shipper nor the carrier had any knowledge of the dangerous character of the article. Because of this, the court decided that "it may be said that there was no actual fault on either side, except such, if any, as the law implies from the nature of the transaction".[81] After having discussed **Brass** v. **Maitland**,[82] the judge concluded:

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[79] ibid. at 577.

[80] 19 Fed.Cas. 646 (Cir.Ct., D. Massachusetts, 1861).

[81] ibid at 651, per Clifford J.

[82] 119 E.R. 940, 6 E. & B. 480 (K.B.Div., 1856).

> "Where damage is sustained in a case not falling within the category of an inevitable accident, and neither party is in actual fault, the loss shall fall on him who, from the relation he bears to the transaction, is supposed to be possessed of the necessary knowledge to have avoided the difficulty... Were the rule otherwise, it might... encourage negligence, and even induce the general shipper or charterer to try experiments with articles unknown to commerce, at expense of his ship-owner"[83].

This was one of the first steps towards applying strict liability to shippers of a dangerous product, a process which is now being adopted in a growing number of American States.

The **Hazardous Materials Regulations** provide that the person who offers a hazardous material for transport shall provide the required description in the shipping paper.[84] The common law duty to inform the carrier has been preempted by the **Regulations**. The long established view of the DOT on local requirements regarding shipping papers is,

> "... the shipping paper requirements of the H.M.R. are exclusive and that any additional shipping paper requirements are inconsistent under the H.M.T.A. Furthermore, when shipping papers contain information relating to hazard class definitions other than those in the H.M.R., the resulting confusion can lead to deviations from DOT's uniform hazard warning systems. This, in turn, can have detrimental effects during emergency."[85]

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[83] ibid.

[84] 49 C.F.R. § 172.220(a).

[85] 50 FR 20875.

b. The Sole Disclosure of the Name of the Product

At common law, the disclosure by the shipper of the product name has not always been sufficient. Courts may insist that the shipper has to add that the product is dangerous when the carrier could not reasonably be expected to know that it is dangerous.[86]

In the case of a shipment of crude oil,[87] whose gas was lethal, it was decided that the shipper had no duty to inform the carrier of the latent danger of the product, since the hazard "is universally appreciated throughout the petroleum barge line industry, from inexperienced deck hand on up to company president".[88] It was also stated that "an inherently dangerous substance is one burdened with a

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[86] It was seen in **Brass** v. **Maitland** that the majority considered the duty to inform fulfilled if the master of the ship has to know normally that bleaching powder contained a dangerous product (119 E.R. 940). Also, in the **SS. Rangoon Maru** case: "Bleaching powder was notoriously dangerous and perishable cargo which the freight agent had waited a week or ten days before agreeing to accept. In such circumstances it is unreasonable to suppose that "full disclosure" meant a detailed description of all the attributes of the chemical and an account of everything that might develop in it", **Nippon Yusen Kaisha** v. **W.R. Grace & Co.** 1928 A.M.C. 1294 at 1302 (2nd Cir., 1928).

[87] **Hobart** v. **Sohio Petroleum Co.**, 255 F.Supp. 972, 1968 A.M.C. 1155 (N.D.Miss., 1966), confirmed by 376 F.2d 1011, 1968 A.M.C. 1154 (5th Cir., 1967).

[88] 255 F.supp. at 975, 1968 A.M.C. at 1158.

latent danger or dangers which derives from the very nature of substance itself, and the duty arises only with respect to hidden or concealed dangers."[89]

On the other hand, an Australian court stated:

> "a carrier is bound to know the nature of goods delivered to him when they are not of an unusual character. There are many dangerous articles the nature of which is well known, and of which it would be useless for anyone to deny knowledge. But where it is necessary to have evidence about a substance in order to form an opinion, such knowledge cannot be imputed. With regard to a substance such as bichromate of potash, it would be impossible for a Judge to tell a jury that any intelligent man must taken to know that it is dangerous".[90]

c. Improper Description Cause of Hazard

An improper description can also make a product hazardous, as the proper manner of carriage may not be used. Where iron ore concentrates, which when affected by moisture becomes a shifting board cargo, was tendered to the master of a ship as iron ore, a non-shifting board cargo, a court said that "the danger consisted in the fact that the cargo was not what it seemed to be".[91] In a similar case dealing

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[89] ibid.

[90] **Hoey v. Hardie** [1912] 12 S.R.N.S.W. 268 at 273 (Supr. Ct. of N.S.Wales, 1912).

[91] **Micada Compania Naviera S.A. v. Texim**, [1968] 2 L.L.R. 57 at 62 (Queen's Bench Div., Commercial Court, 1968).

with copper concentrates shipped as copper ore, the court upheld Lord Campbell's decision in **Brass v. Maitland**, and stated that the burden of the loss should fall upon the shippers.[92]

Of course, it may also happen that an inaccurate description makes no difference to the potential danger of the product, since it would have been dangerous even with a correct one. A court will then likely conclude that the shipper complied with its duty to inform the carrier that the product shipped was a dangerous one.[93]

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[92] "It is quite true that copper concentrates are not a cargo inherently dangerous; but where the charterer misleads the master of the ship as to the nature of the cargo he is loading, and assures him that the cargo is loaded in the usual manner that such a cargo is loaded and safely carried, and where the charterer has been informed by the master that it is impossible to receive it, "except you secure the cargo from shifting in the holds, by shifting boards, in a thoroughly efficient manner, so that the ship will be safe to proceed to the discharging ports", the damages resulting from the improper loading should fall upon the charterer, and not upon the shipowner." **American & Cuban S.S. Line, Inc. v. Beer, Sondheimer & Co., Inc.** 281 F. 725 at 736 (2nd Cir., 1922).

[93] In a British case, the owners of a vessel which had exploded sued the charterers, arguing they had shipped another product than the one described in the charter-party, "butanized crude oil", instead of "crude oil". They also complained that their product was a more dangerous one and for this reason an explosion had occurred. After a long and detailed examination, the court decided that the plaintiffs had failed to prove that the charterers "committed any breach of contract, nor that the presence of additional butane played any part in the cause of the explosions and fire", **Atlantic Oil Carriers, Ltd. v. British Petroleum Co. Ltd.** [1957] 2 L.L.R. 55 at 120 (Queen's Bench Div. Commercial Court, 1957).

d. Carrier's Knowledge: Allegans Suam Turpitudinem Non Est Audiendus

At common law, the shipper's duty to inform is fulfilled if the carrier examines the cargo and sees exactly what it is. In this situation, the carrier cannot accept the goods tendered to him and then say that the shipper should never have tendered those goods without informing him of a danger of which he was fully aware.[94] That does not affect the carrier's statutory duty to accept only properly described hazardous materials.

3. Carrier's Duty to Investigate

While the shipper has to disclose the dangerous nature of his package, the majority of the cases say that the carrier has no common law duty to investigate. Nonetheless, the right to inspect the cargo and a passenger's luggage is an important factor in flight safety.

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[94] In a case where the master of a vessel had sold without authorization maize which was no longer transportable since it had become heated and very dangerous to the rest of the cargo, the court refused to accept his allegation that the shipper had broke its warranty to send goods fit to be shipped, for "the quality of the maize tendered for the shipment was as much known to the one side as the other." **Actos** v. **Burns** [1878] 3 Ex.D. 282 (Exchequer Div., Ct. of App., 1878).

A restricted articles specialist for an air freight carrier testified before a subcommittee of the House of Representatives: "Rejection rates of 65 to 70 percent are very common, and all too often when a shipment is refused for non compliance, a broker or shipper either relabels the product to conceal the hazardous material, or picks an other air carriers"[95].

In a 1828 case dealing with the carriage of silk, a British court said:

> "A carrier has a right to know the value and quality of what he is required to carry. If the owner of the goods will not tell him what his goods are and what they are worth, the carrier may refuse to take charge of them; but if he does take charge of them, he waives his right to know their contents and value".[96]

The reasons for this are that the carrier knows his own business and the laws related to it, and that "many persons who have occasion to send their goods by carriers, are entirely ignorant of what they ought to do to insure their goods".[97]

However shippers of dangerous products are not entirely ignorant of the applicable laws, thus 25 years it

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[95] **Aviation safety: Hazardous Materials Handling**, Hearing before a Subcommittee of the Committee on Government Operations, House of Representatives, 96th Congress, 2nd Session, Aug. 16, 1980, at 20.

[96] **Riley v. Horne** (1828) 5 Bing. 217 at 222, 130 E.R. 1044 at 1046 (Ct. of Common Pleas, 1828).

[97] 5 Bing. at 223, 130 E.R. at 1046.

was stated that this statement was "a proposition which in its generality cannot stand the test of reasoning".[98] The case dealt with a carrier who refused to carry the packages tendered to him because he insisted on knowing what their contents were. The court stated that "to say that the company may in all cases insist upon being informed of the nature and contents of every package tendered to them, as a condition of their accepting it, seems to me to be a proposition that is perfectly untenable".[99]

Nonetheless, the court wrote that the situation is different when, under a statute which states that no person shall be entitled to carry any goods which may be of a dangerous nature, carriers "may refuse tc take any parcel that they suspect to contain goods of a dangerous nature, or require the same to be opened to ascertain the fact."[100]

So, a carrier is allowed to investigate when he suspects that the package contains dangerous goods. In 1872 the US Supreme Court wrote that this decision,

> "recognizes the right of the carrier to refuse to receive packages offered without being made acquainted with their contents, when there is good ground for believing that they contain anything of a dangerous character. It is only when such ground

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[98] **Crouch v. The London and North-Western Ry. Co.** 139 E.R. 105 at 121 (Ct. of Common Pleas, 1854).

[99] ibid.

[100] ibid.

> exists, arising from the appearance of the package or other circumstances tending to excite his suspicions, that the carrier is authorized, in absence of any special legislation on the subject, to require a knowledge of the contents of the packages offered as a condition of receiving them for carriage."[101]

At the beginning of the century, the carriage of "intoxicating liquors" in the US gave rise to several cases on the carrier's right to investigate:

> [Considering the] "magnitude of the evils arising form the use of intoxicating liquors and the manifest struggle of the Legislature by successive enactments to regulate its transportation,... the general rule to the effect that a carrier cannot insist ordinarily upon obtaining knowledge of the character of goods offered for transportation is subject to a well recognized exception where a statute expressly or impliedly confers that right. The Statute with which we are dealing is of that class, and by its imposition of criminal responsibility for transporting the prohibited articles necessarily clothes the carrier with power to obtain such knowledge as may protect him, or to refuse to take the proffered goods."[102]

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[101] **The Nitro-Glycerine Case: Parrot v. Wells, Fargo & Co.** 15 Wallace (82 U.S.) 524 at 536 (Supreme Ct., 1872). In this case, the carrier had brought to a place he had rented a package of an unknown content, which was leaking, to repair it. An explosion resulted therefrom because the content was nitro-glycerine. The owner of the premises sued the carrier for negligence (instead of suing him on the basis of the contract of lease). The court said there was none, since the law "does not charge culpable negligence upon any one who takes the usual precautions against accident, which careful and prudent men are accustomed to take under similar circumstances", at 536.

[102] **Commonwealth v. Mixer** 93 N.E. 249 at 252 (Supr.Judicial Court, Mass., 1910). It rejected the decision in **State v. Goss** 9 A. 829 (Supr.Ct.Vermont, 1887),

In a similar case where the carrier argued that the inspection of every parcel would be a burden on commerce,[103] the court replied that the **Intoxicating Liquors Act** was anti-commercial and that it put "the peace and good order of society above its commerce in this particular... if the carrier believes upon reasonable grounds that it is contraband, he may require reasonable assurances that it is not; and, if an inspection is reasonable and practicable under the circumstances, may require an inspection."[104]

It should be noted that the carriage of most dangerous goods is not prohibited by statute, but only regulated. A US Court of Appeals once said about the carriage of explosives that: "Congress has recognized the

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followed by **State** v. **Swett** 32 A. 806, 87 Me 99, 29 L.R.A. 714, 47 Am.St.Rep. 306 (cargo = too little lobsters). In the latter case, the court said: "it would be strange to hold him guilty of a criminal offense because of the character of the contents; for in such case he is bound to carry, and liable if he does not, and the law will not compel a man to act, and then punish him for acting." 9 A. at 832. So, in absence of suspicious appearances, an express carrier would neither be bound to know nor authorized to find out what the content was. This way of considering the problem was in fact too favorable to the carrier in a time where the society was fighting against "intoxicating" liquors.

[103] It was said in **Bamfield** v. **Goole** [1910] 2 K.B. 94 at 108: "it is obvious that business could not be carried on if every common carrier had a right to have the packages- often mailed up packing cases- unpacked before him".

[104] **Adams Express Co.** v. **Commonwealth** 112 S.W. 577 at 580 (Ct. of App., Kentucky, 1908).

necessity for their transportation as legitimate therefor."[105]

At common law, if the carrier believes, upon reasonable grounds, that the package contains a dangerous product, he may require an inspection in reasonable and practicable circumstances. The carrier has the right to know the nature of the goods to ensure that they are neither dangerous nor prohibited. However, if the shipper certifies that his package is in accordance with the Code of Federal Regulations, the carrier is under no duty to inspect. In **Poliskie Line Oceaniczne v. Hooker Chemical,**[106] the shipper of sulphur dichloride argued that the carrier failed to exercise due diligence and neglected to have the interior storage area of the container inspected. According to the court, the argument was without merit:

> "In view of the recognized practice not to open a sealed container as to which shipper had certified compliance with applicable C.F.R. regulations, I find plaintiff had no cause to do so in the absence of any indication of a dangerous condition. I also find that this practice was not negligent. Plaintiff was entitled to rely on defendant's certification in the dock receipt that the stowage accorded with C.F.R. regulations, and it was not unreasonable or negligent to do so. Plaintiff had no legal obligation or duty to break the seal on this house to house container to inspect the stowage."[107]

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[105] **Actiesselskabet Ingrid v. Central R. Co. of New Jersey** 216 F. 72 at 75 (2nd Cir., 1914).

[106] 499 F.Supp. 94 (S.D.New York, 1980).

[107] 499 F.Supp. at 99.

As to whether a carrier should accept a dangerous goods duly disclosed by the shipper, it was stated that "it is well established that a carrier is obliged to know the characteristics of the cargo which it accepts for carriage and... to exercise due care in their handling through such methods as their nature requires."[108]

If a carrier hires an expert to inspect the condition of the goods, and the expert fails to find the inherent defect of the goods, the carrier is not liable vis-a-vis the shipper of these goods, as he took all the necessary measures.[109]

The carrier shall not be liable for any failure to take appropriate measures of care if after a professional inspection he and his expert cannot discover the deficiency of the cargo tendered to him.

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[108] **Produits Alimentaires Grandma v. Zim Israel Navig. Co.** [1987] 8 Federal Trial Reports 191 at 196.

[109] "Not only would it be improper but there would be no legal justification for fixing liability on a carrier based on the lack of knowledge or expertise of an expert which the carrier was not by law nor by duty to the consignee bound to engage. This would discourage any carrier from ever hiring an expert or attempting to do any more than make a proper visual examination of the cargo to determine whether it appears to be undamaged and in good order, for he is obliged to do more", **Westcoast Food Brokers Ltd. v. The Ship "HOYANGER' and Westfallersen & Co. A/S** [1979] 2 L.L.R. 79 at 89 (Canadian Fed. Ct., Tr. Div., 1978).

B. The Civil Law Carrier

In French civil law, the contract of carriage remains consensual. The carrier is free to contract with the shipper or not. At civil law, the carrier has the right to refuse to carry any goods offered for carriage for any reason. He has such a broad right to refuse that scholars have pointed out that carriers could abuse this right.[110] The French carrier is free to accept dangerous goods and did not have to go to court to have this right recognized, unlike to his American counterpart.

1. Shipper's Duty to Inform

The duty to inform was also imposed on the shipper by French courts.[111] The shipper's duty to inform is a statutory duty, as France has implemented Annex 18 and the Technical Instructions by the "Arrêté du 14 janvier

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[110] **Encyclopédie Juridique Dalloz: Répertoire de Droit Commercial**, "Contrat de transport", n° 51 (Paris: Jurisprudence Générale Dalloz, 1973).

[111] **Sté Lesieur-Cotelle c. Consorts Turquet** (1971) 23 Dr.Mar.Fr. 403 (Cour d'appel de Rouen (2e ch.), 6 novembre 1970), conforming in part (1970) 22 Dr.Mar.Fr. 561 (trib. com. du Havre, 17 juin 1969).

1983".[112] Article 3 of the Arrêté says that each transport of dangerous goods is subject to the execution by the shipper of a declaration which includes the name, class, etc. of the goods and a certification of compliance with the Technical Instructions and the Arrêté.

The Cour de Cassation judged that the non-compliance with this statutory obligation could result in the cancellation of the contract of carriage.[113]

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[112] Arrêté du 14 janvier 1983 relatif au transport par air des marchandises dangereuses, des dépouilles mortelles et des animaux infectés et venimeux, **Journal Officiel** du 17 février 1983 N.C.

[113] Section 12 of the Regulations annexed to the "Arrêté du 15 avril 1945 ayant pour objet de règlementer par chemin de fer, par voie de terre et par voie de navigation intérieure, des matières dangereuses (explosibles, inflammables, toxiques, etc.) et des matières infectes", J. O. 16 décembre 1945 p. 8334. Under this Regulations, the shipper of dangerous goods by railroads had to provide the carrier with a declaration containing the name, class, etc. and a certification that all the prescribed conditions were complied with. In **Costes c. Bouilloc**, the Cour de Cassation stated that the shipper, who did not disclose the dangerous nature of the goods, did not allow the carrier to demand the tariff applicable to this class of goods and to take the appropriate measures necessary to the conclusion of a valid contract of carriage. Bull. Cass. 1963.3.228, J.C.P. 1963.13440 (Cass. comm., 7 juin 1963).

2. Carrier's Duty to Investigate[114]

In 1820, a carrier pleading "force majeure" and "cas fortuit" in a case where a dangerous product had caused all the cargo he was carrying to burn, argued that the product was put on board without his knowledge.

The court said that if it was the practice for carriers not see what they were asked to carry and to believe the shippers' declaration, this practice should not prevail either in the law or in the "nature of things". If a carrier could limit his liability stating that in practice he did not verify the cargo, he would be free to commit "the most revolting dishonesty, the most fraudulent substitutions" (les infidélités les plus révoltantes, les substitutions les plus frauduleuses). Damage to cargo would no longer be the responsibility of the carrier, since he would answer that the cargo was broken when he received

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[114] Sections 1782 to 1786 of the Civil Code deal with the carriage by land and by water. S. 1782 states that carriers are subject, with respect to the safe-keeping of things entrusted to them, with the same obligations and duties as innkeepers, under the title "of Deposit". Under this title, s. 1931 says that the depositary should not seek to know what are the things entrusted to him, if they were in a shut up box or in a sealed envelope. In an isolated case of 1895, this section was relied upon in an obiter, as the carrier was not able to prove that the dangerous goods were the cause of damage. The obiter was rejected by scholars and by subsequent cases. **Compagnie générale transatlantique c. Ritter** Gaz. Pal. 95.2.34 (Cour d'appel de Paris, 3e ch., 18 mai 1895).

it. The court decided that where the damage could have been foreseen and prevented, the carrier who should have foreseen the damage could not set forth the "cas fortuit": "quando culpa praecessit casum, tunc casus fortuitus non excusat".[115]

In 1853, it was decided that a right to verify the packages was the "necessary corollary" to the tariffs. The court could not deny a carrier the right to verify the sincerity of the declarations made by the shipper, but neither could this right be exercised in a way that would disturbe the shipping industry or degenerate intc harassment.[116]

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[115] **L'herbette c. Barreau et Buffet** D.A. 2. 776 at 778 (C. de Paris, 3e ch., 29 avril 1820).

[116] **Chemin de fer d'Orléans c. Messageries impériales** S. 1853.2.707 (Cour impériale de Paris, 1re ch., 16 août 1853). "Le transporteur n'a pas à s'en tenir aux déclarations de l'expéditeur. Il peut demander à vérifier la nature et l'état de la marchandise cachée dans un colis ou dans un sac...", R. Rodière, B. Mercadal, **Droit des Transports Terrestres et Maritimes**, 4e éd. (Paris: Dalloz, 1984) at 196 para. 155. See also, **S.N.C.F. c. Chouvelon et Teyssonneyre** D. 1949. 50, Gaz. Pal. 1948. 2. 281 (Cour d'appel de Lyon, 15 nov. 1948) confirmed by D. 1951. 347, Gaz. Pal 1951. 1. 225 (Cass. civ., sect. comm., 19 fév. 1951).

C. Constitutional Aspects

While a carrier has a right to open cargo tendered to him, this right has become the subject of constitutional litigation in the United States.

The Fourth Amendment of the United States Constitution provides:

> "The right of people to be secure in their persons, houses, papers and effects, against unreasonable searches and seizures, shall not be violated, and no Warrant shall issue, but upon probable cause, supported by oath of affirmation, and particularly describing the place to be searched, and the person or things to be seized."

This provision has been the basis for the shippers' arguments against searches after the seizure of illegal products arrested following a carrier's inspection.

1. Inspection of the Cargo

In **United States v. Pryba**,[117] an air freight carrier was asked to ship a box from San Francisco to Washington. The clerk inquired about the contents of the box, explaining that "he has to know if the package was acceptable so as to present any acceptance of any dangerous or illegal type of shipment". The shipper became suspicious, and said it was

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[117] 502 F.2d 391 (Ct. of App., D. of Col. Cir., 1974), c. den. 95 S.Ct. 815, 419 U.S. 1127, 42 L.Ed.2d 828.

"personal effects". The clerk gave it to his supervisor, who discovered pornographic materials in the package, notified the police but then shipped the package. The consignee was convicted of interstate transportation of obscene matters.

The court rejected the application of the Fourth Amendment:

> "Where the search is made on the carrier's own initiative for its own purposes, Fourth Amendment protections do not obtain for the reason that only the activities of individuals or nongovernmental entities are involved."[118]

The defendant had also claimed that the carrier's right of inspection was based on government regulation, Rule 24 of CAB Reg. 96, which states: "All shipments are subject to inspection by the carrier, but the carrier shall not be obligated to perform such inspection"[119]. The carrier's inspection would be in violation with the 4th Amendment. The court stated:

> "Rather, the airline's inspection privilege exists independently of Rule 24. It is rooted in the rule of the common law that common carriers have the right to decline shipment of packages proffered in circumstances indicating contents of suspicious, indeed of a possibly dangerous, nature[120]... Indubitably, air

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[118] ibid. at 398.

[119] Rule 24 of the Airline Tariff Publishers, Inc., Agent, Official Airfreight Rules Tariff, No. 1-B, CAB No. 96.

[120] 502 F.2d at 399.

> freight carriers share the qualified right of package inspection with other common carriers of goods. Rule 24 of CAB Regulations 96 recognizes that air carriers possess that right. That bare recognition cannot be equated with a grant of governmental authority to search, nor could it transform an inspection initiated and conducted solely by the carrier for its own protection into a search under the aegis of the Federal Government."[121]

In **United States v. Crabtree**, [122] the argument that a small private air shipper, Federal Express, was a de facto government officer or an agent of the federal government because it carried the mail and was subject to various federal regulations was rejected. The court said the carrier's agent was acting as a private citizen while he opened and inspected parcels consigned to his care. As a private person, the air carrier's action is not covered by the Fourth Amendment.[123]

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[121] ibid. at 401. See also **United States v. Edwards** 602 F.2d 458 (1st Cir., 1979), **United States v. De Berry**, 487 F.2d 448 (2nd Cir., 1973); **United States v. Fannon**, 590 F.2d 794 (9th Cir., 1977), reconsidering "en banc" and reversing 556 F.2d 961.

[122] 545 F.2d 884 (4th Cir., 1976).

[123] See S. Halbrook, "Firearms, the Fourth Amendment, and Air Carrier Security" (1987) 52 Journal of Air Law and Commerce 585.

2. Governmental Searches

Of course, a search may not be cast "in the form of a carrier inspection to enable the officers to avoid the requirements of the Fourth Amendment".[124] For example if a federal inspector asks an airline employee to open a package of hazardous materials at the airport in order to avoid the 4th Amendment, the airline employee may be seen as acting as a government agent:

> "No doubt both the customs agents and the TWA transportation agent relied upon the inspection clause in TWA's tariff and the act of TWA's agent in cutting open the outside to furnish technical legal justification for the search. But we have noted, the TWA employee himself testified that he opened appellant's package only because the government agents asked him to, and there is nothing else in the record which would indicate that the package was in fact opened for any purpose of the carrier."[125]

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[124] **Corngold v. United States** 367 F.2d 1 at 5 (9th. cir., 1966).

[125] ibid. at 5. The court did not follow **United States v. Blum**, 329 F.2d 49 (2nd Cir., 1964), in which the custom agent had the carrier's permission to open the package, as it seemed that the carrier had previously opened the package.

D. Warsaw System

In cases of carriage covered by the Warsaw system, "every carrier of goods has the right to require the make out and hand over to him a document called an "air waybill"" (Art. 5 of the Warsaw Convention). If he accepts goods without an air waybill or with a defective one, he will not be entitled to avail himself of the provisions of the Convention which exclude or limit his liability (Art. 9). It is interesting to note that Art. 8(g) states that the air waybill shall contain a declaration of the "nature of goods", but this provision was deleted from Article VI of the Hague Protocol.

Article 10 states that "the consignor is responsible for the correctness of the particulars and statements relating to the cargo which he inserts in the air waybill. The consignor will be liable for all damage suffered by the carrier or any other person" resulting from such irregularity, incorrectness or incompleteness. Article 16 says that the consignor must furnish the information and documents required by customs, octroi or police and is liable for any damage occasioned by the absence, insufficiency or irregularity of the information or documents. Moreover, the carrier is under no obligation to enquire into the correctness or sufficiency of such

information or documents. Naturally, the carrier will not be able to collect "all damages" if his negligence contribute to the dangerousness of the cargo, or if the incorrectness of the information provided by the consignor does not affect the degree of danger of the cargo.[126]

According to Article 23, any provision tending to relieve the carrier of liability or to fix a lower limit than that which is laid down by the Convention is null and void. Nonetheless, the 1955 Hague Protocol added, at Article XII, that this does not apply to provisions governing loss or damage resulting from the inherent defect, quality or vice of the cargo carried. According to some participants to the 1955 International Conference on Private Air Law, which adopted the Hague Protocol, Article XII should add that the carrier is liable if the inherent defect of the carge is not the only cause of damage.[127] This

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[126] At the International Conference which adopted the Hague Protocol amending Article 10 (2), a country suggested to add the word "solely" in the paragraph, so the shipper would have to indemnify all damage suffered solely by reason of the irregularity, etc. The reason was that "the shipper might not have furnished the particulars correctly should not make him entirely liable in the case where the carrier had not taken the necessary measures to rectify the situation." There was no support to this proposition. International Conference on Private Air Law, The Hague, **Volume I Minutes**, Minutes of the 13th Meeting, 14 September 1955, ICAO Doc. 7686-LC/140, September 1956, at 150 para. 33.

[127] International Conference on Private Air Law, The Hague, September 1955, **Volume II Documents**, ICAO Doc. 7686-LC/140, September 1956, at 260 and 261 para. 90 and 91.

proposition was not supported, as if the damage was caused by the negligence of the carrier, the latter would not be able to argue that the damage was caused by the special nature of the cargo.[128]

E. Shipper's Compliance with the Convention and Regulations

The Warsaw Convention does not deal with the action of a carrier as against the shipper of a hazardous product which could cause damage if there had been full disclosure. The IATA Conditions of Carriage are also silent on this point.[129]

In **General v. Consorcio Pesquero Del Peru**,[130] where both the shipper and carrier were fully aware of the danger and were found not to be negligent, the court said that the carrier had no action against the shipper. The **Carriage of Goods by Sea Act** and the Hague Rules state that a shipper shall be liable for dangerous goods if the carrier has not

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[128] ibid., **Volume I Minutes**, Minutes of the 9th Meeting, 12 September 1955, at 108; Minutes of the 18th Meeting, 17 September 1955, at 210 to 213.

[129] "en l'absence de toute indication semblable dans les conditions de transport, on voit mal sur quel fondement le transporteur pourrait exercer un recours contre le propriétaire du produit dangereux exactement déclaré et correctement emballé." A. Rabut, "Le Transport des Matières Dangereuses" (1953) 7 Revue Française de Droit Aérien 210 at 213-214.

[130] 1974 A.M.C. 2343 (S.D.N.Y., 1972).

consented to the shipment of these goods. The court found there was no basis for finding the shipper liablie as the master of the ship had full knowledge of the inherent characteristics of fishmeal (susceptibility to spontaneous combustion) and had consented to its carriage with express approval of the shipowner.[131]

It is submitted that a carrier should include a provision in the contract of carriage that the shipper shall be liable in cases where the product shipped causes damage even if all the requirements have been met. If the carrier accepts a product which is properly packed and carries it in a "professional" way, without any negligence, following all the legal requirements and still unforeseen damage results, the person who had tendered hazardous goods to the carrier should be liable.

If the carrier does not wish a court to apply the maxim, allegans suam turpitudinem non est audiendus, a clause should be written into the air waybill stating that despite the absence of negligence and compliance with all legal requirements, the consignor shall be liable for all damages sustained by the carrier as a result of cargo tendered by him.

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[131] 46 USCS § 1304(6). § 1304(3) says that the shipper shall not be responsible for loss sustained by the carrier without its negligence, provision which do not exist in the Warsaw Convention.

If courts, in absence of negligence on both sides, apply the maxim, allegans suam turpitudinem non est audiendus, the international air carriage of dangerous goods would stop right away. Shipper of dangerous goods should be liable, just manufacturers of dangerous products will be for having introduced a dangerous product onto the market. The court in **Pierce** v. **Winsor** wrote that in that case, "the loss shall fall on him who, from the relation he bears to the transaction, is supposed to be possessed of the necessary knowledge to have avoided the difficulty".[132]

F. The Shipper's Liability when the Carrier is Negligent

A negligent carrier cannot pretend that the shipper should be liable for having tendered to him a dangerous product when the carrier's conduct is the cause of damage.

In a Canadian case where death occurred when drums of of sodium chlorate were discharged, the court found that the causa causans and the efficient cause of the disaster was the carrier's own negligence during the discharge.[133]

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[132] "Were the rule otherwise, it might... encourage negligence, and even induce the general shipper or charterer to try experiments with articles unknown to commerce, at expense of his ship-owner". 19 Fed.Cas. 646 at 651 (Cir. Ct., D.Mass., 1861).

[133] "An attempt was made by plaintiff to show that this commodity was tainted with inherent vice: also that defendant had improperly misled plaintiff as to the

He "had previously shipped thousands and thousands of drums of sodium chlorate. The Canadian Regulations speak for themselves. The carrier offered to carry these goods by sea for reward. It knew what it was doing and cannot now plead ignorance."[134]

In a French case,[135] a railway carrier employee had entered a wagon containing "gasoline rubber glue" with a lantern, causing an explosion. The carrier sued the consignor, arguing that the latter had made a "faute" by not putting labels indicating that there were dangerous materials on the railway car, as the statute demanded.

The court rejected the action, because the consignor had disclosed the nature of the product, in conformity with the same statute, and because the carrier's employee had entered the wagon with a lantern, which was against the statute.[136] The explosion was then caused by the employee's negligence. As to the labels, if the consignor had made a

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properties of sodium chlorate. The Court considers that in fact and in law there is no merit in this contention." **Shaw, Savill Co. v. Elec. Reduction** [1955] 3 D.L.R. 617 at 629; 1955 R.L. 393, 73 C.R.T.C. 13 (C.sup.Québec, 1954).

[134] ibid.

[135] **Chemin de fer de l'État c. Soc. Établissements Johnson et cie** Gaz. Pal. 1929. 1. 56, Gaz. Trib. 17 janv. 1929 (Cour d'appel de Paris (5e ch.), 19 oct. 1928).

[136] S. 159, Arrêté interministériel du 12 novembre 1897. See also **Chemin de fer du Nord c. Boston Blacking Co.** Gaz.Pal. 1930. 1. 565 (Trib.com. Pontoise, 21 janv. 1930).

"faute" for not having put labels, this was not the cause of the explosion.

1. Handling and Stowage

Where cargo is of a dangerous nature, the carrier will be liable if his own acts increase the dangerous effects of inherent vices of goods. A good illustration thereof can be found in maritime cases relating to stowage the principles of which can also be applied to air carriers.

In a French case, the captain blamed the forwarding agent of sodium sulphide which caused damage to copper rolls. The court concluded that the real cause of the damage was the stowage of copper on the open bags containing a corrosive product. The captain had known some of the bags were opened. So, inherent vice of the goods was cause of damage because of the carrier's own negligence.[137]

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[137] "Attendu que le vice propre n'a donc pu produire ses effets que par la faute du transporteur qui a chargé sur du métal un produit corrosif, même si ce dernier était convenablement emballé et, à plus forte raison, s'il a pris le risque de charger des sacs en vidanges". The acceptance of badly packed dangerous goods against the law was also a "faute". **Capitaine du "Schiehaven" c. Sté. Maprachim et Sté. Rhône Progil** (1974) 26 D.M.F. 549 at 555-6 (Trib.com.Rouen, 22 mars 1974). The Cour de Cassation concluded that even if the lime chloride was badly packed, the only fault which caused the damage to foods was the carrier's negligence who had stowed the lime chloride nearby. **Companies des messageries maritimes c. Soc. N.V. Maatschappij van Assurantie Discontering** Bull.cass. 1962. 3. 116, J.C.P. 1963. 13019 (Cass.com., 6 mars 1962), note M.

If there is a flight delay on an aircraft, the carrier's plea of ignorance as to the proper care to be given to a hazardous cargo might also be rejected, if the ignorance is the direct and proximate cause of the injury:

> "knowing, as they did, of the nature of cargo, and the hot climate in which the vessel had been all this time, some steps should have been taken to prevent the very thing that did occur, the breaking out of the numerous fires by spontaneous combustion, and this neglect is directly chargeable to the owner [of the ship]... Proper precaution on the part of the owner, such as the unloading or ventilating of the cargo, would unquestionably have avoided the fire."[138]

In **Remington Rand** v. **American Export Lines**[139], the carrier had stowed film scrap in a unventilated place where extreme temperature had caused it to deteriorate. When the cargo was put on lighters in the port of destination, fire and explosion occurred. The carrier was held liable for bad stowage, and the court held, as a "conclusion of law", that the carrier "was chargeable with the knowledge of the dangerous characteristics of the waste film washed scrap it undertook to carry. If it did not have actual knowledge, it was under an obligation to seek it".[140] The carrier has

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de Juglart.

[138] **Bank Line** v. **Porter** 25 F.2d 843 at 845 (4th Cir., 1928).

[139] 132 F.Supp. 129, 1955 A.M.C. 1789 (S.D.N.Y., 1955).

[140] 132 F.Supp. at 136.

the duty to reasonably anticipate what could occur during the carriage.[141]

In **China Union Lines, Ltd. v. A. O. Anderson & Co.,**[142] the court agreed that the carrier in compliance with the Regulations, was insulated from the charge of negligence with respect to the stowage:

> "It has been said, and rightfully so, that these statutes and the regulations promulgated thereunder amount to much more than a set of prohibitions with punitive sanctions. They established a standard of care."[143]

2. Badly Packed Goods

The carrier will also be negligent if he accepts goods which he knows are badly packed, for he knowingly accepts goods not fit to be carried.

In **Masonite Corp. v. Norfolk & Western Ry. Co.,** the court said:

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[141] "I think a reasonable prudence and care would, upon evidence, have anticipated that, in the course of the voyage, some of this bleaching powder would be likely to get out of the casks, and to injure the bales of bags stowed with reference to the bleaching powders as these were stowed. If this had been anticipated, the precaution to guard against the danger was obvious enough to stow the bags away... or to place other cargo not liable to injury beneath them on the temporary deck, if it was of a nature to obstruct the passage of the fumes." **Mainwaring v. Bark Carrie Delap.** 1 F. 874 at 879 (S.D.N.Y., 1880).

[142] 364 F.2d 769 (5th Cir., 1966).

[143] 364 F.2d at 784.

> "the railroad also must prove that its failure to prevent the loss of the goods was not negligent. Since the railroad has a right to refuse transportation to badly packed goods, the railroad is liable despite the shipper's fault when it negligently fails to reject goods that may suffer damage because of deficiencies in packing... The railroad is not obliged to inspect all freight containers for internal defects. but it is liable for damage caused by defects in packing reasonably known or discoverable by the railroad."[144]

The shipper of a badly packed package cannot sue the carrier for damage to the package, since the carrier is not liable for the inherent vice of the goods.[145]

G. The Carrier's Liability to the Shipper

1. The Common and Civil Law Carriers

A common carrier is liable for loss or damage to the goods of a consignor while he is in possession of the goods except, inter alia, where the damage is caused by the inherent vice of the goods of that consignor. But a

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[144] 601 F.2d 724 at 728 (4th Cir., 1979).

[145] "The inherent vice of natural tendency of certain kinds of goods to depreciate or become damaged may be perfectly apparent to the carrier, and in most cases would be quite apparent when he received the goods, nevertheless he is not responsible for the damage resulting from such a cause, and it appears to me that there is no reason for treating the exception of damage caused by defective packing in any different way". **Gould v. South Eastern & Chatam R. Co.** [1920] 2 K.B. 186 at 191.

carrier, who accepts goods which require special care with full knowledge as to this requirement, must exercise such care. The special cargo must then be accorded the appropriate standard of care.[146] This can also be applied to hazardous materials.

It is not sufficient for the carrier to plead the inherent vice of goods at common law as well as in civil law. According to the French jurisprudence, it is not enough to consider the "vice propre" of the goods. Courts had to consider the defence of inherent vice in relation to the carrier's duties with respect to the carriage of materials tendered to him in each specific case.[147]

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[146] In a case of carriage of garlic, whose heat-generating characteristics were well known to the officers of the vessel, the court said that the carrier was liable to the consignor, even if his bill of lading stated that "Carrier shall not be liable for loss or damage... occasioned by the heating... or any loss or damage arising from the nature of the goods". Considering that the garlic was in good condition when shipped, "it is equally well settled that a carrier, who accepts goods of a nature which requires special care in their stowage, must exercise such care, and, failing so to do, is liable for the damage caused thereby, even where the character of the damage is within the exception from liability contained in the bill of lading." **The San Guglielmo** 241 F. 969 at 977 (S.D.N.Y. 1917).

[147] M. Lemoine, note (1952) 6 Revue Française de Droit Aérien 64.

2. Warsaw Convention

It is surprising that the Warsaw system is silent on the carriage of special materials.

Art. 18(1) states that the "carrier shall be liable for damage sustained in the event of the destruction or loss of, or of damage to, any checked baggage of any cargo if the occurrence which caused the damage so sustained took place during the transportation by air." Art. 20 adds that he "shall not be liable if he proves that he and his agents have taken all necessary measures to avoid the damage or that it was impossible for him or them to take such measures." It is important to know what those measures are in relation to the kind of materials carried.

In **Manufacturers Hanover Trust Co. v. Alitalia Airlines**[148] the following interpretation of "all necessary measures" was given:

> "a common-sense reading serves best. Thus, this Court concludes that the phrase "all necessary measures" cannot be read with strict literally, but must, rather, be construed to mean "all reasonable measures"... In short, Article 20 requires of defendant proof, not a surfeit of preventives, but rather, of an undertaking embracing all precautions that in sum are appropriate to the risk, i.e., measures reasonable avoidable to defendant and

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[148] 14 Avi. 17,710 (S.D.N.Y., 1977).

> reasonably calculated, in cumulation, to prevent the subject loss."[149]

Courts of the United Kingdom, Canada and France have followed this approach of with respect to the phrase, "all reasonable measures."[150]

The carrier must prove that all the necessary "possible" measures were taken to avoid the damage. In defining "possible", a court must consider that where a carrier has problems with a dangerous product at 10,000 feet, it will be argued that under such flight conditions, employees could not have done more than what they had done. A carrier's duty to take all the necessary measures with respect to hazardous materials might be of a more exceptional nature than for other kinds of goods.

a. Unknown Cause

A difficulty in the interpretation of the phrase, "all necessary measures", is to the kind of proof a carrier must provide when the cause of the damage is unknown. If it

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[149] ibid. at 17,712. See also, **Rugani v. K.L.M. Royal Dutch Airlines** 4 Avi. 17,257, 1954 USAR 74 (N.Y. City Ct., 1954), aff'd 139 N.Y.S.2d 899 (App. Div.), aff'd 309 N.Y. 810 (Ct. of App., N.Y., 1955); **Boehringer Mannhein Diagnostics v. Pan Am** 531 F.Supp. 344 at 348 (S.D. Texas, 1981).

[150] J.-L. Magdelénat, **Air Cargo Regulations and Claims** (London: Butterworths, 1983) at 94.

is unknown, how can he prove that all necessary measures were taken?

Where during carriage, chicks died from an unknown cause, the court rejected the carrier's claim that all the necessary measures were taken. Because Article 18 created a presumption of liability on the part of the carrier, it was not sufficient to relieve the carrier of his liability that there had been no delay in the carriage. In addition, the carrier had made no special provision concerning the conditions of the carriage of the chicks.[151]

In a case of an unexplained accident,[152] the court said that the carrier did not succeed in proving that he had taken all the measures in direct and immediate relation with the cause of damage.

So, not only should the carrier prove his diligence in his behaviour generaly but the diligence must bear a direct and immediate relation to the accident.

Some authors have criticized this restrictive interpretation, saying that the carrier should only have to prove the diligence one can reasonably expect from him and not have to prove "force majeure". Or else, the occurrence

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[151] **Assureurs divers** c. **Cie Alitalia** (1983) 37 Revue Française de Droit Aérien 153 (Trib. de comm., Paris, 4 nov. 1982).

[152] **Jugoslovenski Aéro-Transport** c. **Epoux Gati** D. 1962. I. 707, (1962) 25 R.G.A. 415 (Cour d'appel de Paris, 1re Ch., 12 déc. 1961).

of the accident whould be a proof that the all the necessary measures were not given to avoid the accident.[153]

In his historical study of Article 20, Hjalsted concluded:

> "the intention behind the original wording including "the reasonable measures" was to introduce the principle that the carrier, his servants or agents, have to show due diligence to act with the care of a bonus pater familias. In other words, the liability was based on fault. At the Warsaw Conference the expression was changed to "all necessary measures", but the principle behind the terminology remained unchanged".[154]

Lemoine wrote that the restrictive interpretation was indefensible, because each time there was an accident, this would mean that the carrier had not taken all the necessary measures to avoid it. He could only plead "force majeure", i.e. that it was impossible for him or his employees to take those measures. Article 20 must mean that the carrier has to prove his due diligence, i.e. the diligence one can expect from a good carrier.[155]

Mankiewicz advocates the restrictive interpretation. According to him, the "wording of Article 20 makes it clear that only after the cause of the accident or damage has been

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[153] R. Saint-Alary, note, D. 1962. I. 708 at 710.

[154] F. Hjalsted, "The Air Carrier's Liability in Cases of Unknown Cause of Damage in International Air Law", (1960) 27 Journal of Air Law and Commerce 1 at 11.

[155] M. Lemoine, **Traité de Droit Aérien** (Paris: Sirey, 1947) at 542 et seq.

established is the carrier in a position to effectively prove that" he took all the necessary measures or that it was impossible to take such measures.[156]

The carrier of dangerous goods might encounter a problem of proof, as the presence on board a damaged aircraft of dangerous goods is not per se the cause of damage.[157] Courts are usually not ready to reverse the presumption of liability when a carrier cannot prove the

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[156] R. H. Mankiewicz, The Liability Regime of the International Air Carrier (Antwerp: Kluwer, 1981) at 100 para. 144.

[157] Compagnie Star Shipping Per Waaler A/S Wagsaile c. Arviset Bull. Cass. 1968.4.111 at 114 (Cass. comm., 3 avril 1968). In this maritime case where the cause of fire was unknown, the court said that even if there was a proof of negligence in the stowage of explosives by the charterer, the captain, an employee of the owner, had sole and full responsibility for safety on board and had an absolute authority as to the precautions to be taken in carrying explosives.

exact cause of the damage,[158] but will do so on the preponderance of evidence.[159]

As the Warsaw Convention presumes the liability of the carrier, a carrier should not be surprised that he must ascertain the cause of the damage before he can claim that he took all the necessary measures.[160]

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[158] Presumption of Article 103 of the Code de Commerce: The French Cour de Cassation reversed the appeal court decision which had held, on the ground that the fire was either caused by the inherent vice of the material carried, the shipper's negligence or force majeure, that the carrier was not liable. According to the Cour de Cassation, the real cause of the fire was unknown and the appeal court had not looked for the exact cause. **Compagnie La Paix c. S.N.C.F.** Bull. Cass. 1970. 4. 134 (Cass. comm., 6 mai 1970). For a Cour d'appel, while the shipper had given no reason why the railway car burned, did not have to explain the precise cause of the fire. It was up to the carrier to prove that it was either caused by the inherent vice of the goods or the consignor's "faute". **S.N.C.F. c. Cie. d'assur. Helvetia** Gaz.Pal. 1958. 2. 175 (Cour d'appel de Paris (5e Ch.), 24 juin 1958).

[159] "the cause of the fire had not been proved beyond a reasonable doubt but that the preponderance of the evidence fairly established the conclusion that the fire originated by spontaneous combustion... we think that this furnishes the most plausible theory of the origin of the fire that has been advanced." **A/S J. Ludwig Mowinckels Rederi v. Accinanto** 1952 A.M.C. 1681, 199 F.2d 134 at 137-138 (4th Cir., 1952).

[160] Moreover, a French author wrote: "Or, à la différence de la faute, l'absence de faute, elle, n'est jamais évidente: quelle que soit la particularité du dommage, il est certain que des mesures pour l'éviter sont toujours possibles." A. Sériaux, **La Faute du Transporteur** (Paris: Economica, 1984) at 35 para. 46.

b. Limits of Liability and Wilful Misconduct

Under the Warsaw Convention, the carrier cannot avail himself of the provisions excluding or limiting his liability in case of wilful misconduct or, under the Convention as amended by the Hague Protocol, in case of an act or omission done with the intent to cause damage or recklessly and with knowledge that damage would probably result (Article 25).

In many jurisdictions, the carrier who receives dangerous goods but does not use the appropriate standard of care as set out in the ICAO Technical Instructions, would be acting recklessly and with knowledge that damage would probably result. As the Instructions, and the IATA Dangerous Goods Regulations Manual, are known worldwide this must logically follow. The carrier should know that dangerous goods demand a high degree of care and if he does not comply with this standard of care, he certainly acts recklessly and with knowledge that damage would probably result, or with wilful misconduct.

In **Bank of Nova Scotia v. Pan America World Airways,**[161] the carrier's employee did not comply with the carrier's regulations as to the carriage of gold. According to the court:

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[161] 16 Avi. 17,378 (S.D.N.Y., 1981).

> "Here the reasonably foreseeable consequences of [the carrier's] recklessness was the loss of the gold. This result obtains whether it is framed in terms of knowledge of the consequences or in terms of proximate cause. The entire system of security for valuables was based upon the rules set down by the airlines, rules which had been complied with up until the shipment arrived in Guatemala. The result of the violation of those rules was predictable, and, in absence of any contrary evidence,... it must logically be inferred to constitute the cause of the loss."[162]

In the French case **Compagnie Helvetia Saint Gall c. S.A. U.T.A.,**[163] the shipper's air waybill instructed the carrier to stock the vaccines at 0° C, which was not done. The carrier's omission to maintain the temperature mentioned in the air waybill during all the carriage constituted a "faute inexcusable" which prevented the carrier from availing himself of the limits in Article 22.[164]

In the Canadian case of **Newell v. Canadian Pacific Airlines, Ltd.,**[165] the air carrier told the owner of two dogs that they would fly in a cargo compartment. The dogs

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[162] ibid. at 17,380-17,381.

[163] Gaz.Pal. 15-16 avril 1988 (Paris/Hauts-de-Seine/Seine-Saint-Denis/Val-de-Marne) 13 (Cour d'appel d'Aix-en-Provence (1re Ch. civ.), 13 octobre 1987).

[164] "en effet, sachant que les produits au transport étaient destinés à la médecine humaine, et que leur qualité serait irrémédiablement compromise par le non-respect de la température de conservation, le transporteur ne pouvait pas ne pas avoir conscience du dommage qui résulterait d'une rupture de cette température, fût-elle la conséquence d'une simple omission". ibid. at 14.

[165] 74 Dominion Law Reports (3d) 574.

were put near dry ice and were injured (one died) by carbon dioxide poisoning. The "C.P.Air Regulations" provided "that live animals should not be carried in the same compartment as any dry ice shipments". Since the cargo services department had failed to inform the ramp services in charge of the loading of the aircraft that the shipment of two dogs was following the shipment of vaccine packed in dry ice, the carrier had acted recklessly, and the air carrier could not avail himself of the limits of the Convention.

H. The Carrier's Liability to the Consignee

The carrier of a dangerous goods owes the consignee the duty to transport the shipment safely and deliver it in good condition.

A problem may arise when the consignee is injured by the hazardous materials received from the carrier who brings the container on the consignee's premises and damage results.

In Davis v. Gossett & Sons,[166] the placards on the railway tank cars disappeared during transportation. On arrival at the destination, there was only a small tag on the tank cars which indicated "gasoline", while in actuality

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[166] 118 S.E. 773, 30 Ga.App. 576 (1923), aff'd, 124 S.E. 529, 158 Ga. 886 (1924).

it was a liquid condensate from natural gas. An explosion occurred at the consignee's property. According to the court, "[t]here is no obligation upon a carrier to notify the consignee of his shipment".[167]

A similar decision was reached in **Crockett** v. **Uniroyal**,[168] where the shipper labelled rented tank cars "empty", after they had carried a poison, and sent them to a cleaning service. Employees of the consignees were injured by a residue of the poison when they entered the car. The Court decided that "a consignee is presumed to know the content of the shipment he receives... Any necessary warnings as to the potential hazard inhering in the content of a shipment should be made by the shipper directly to the consignee."[169]

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[167] "The consignee may be presumed to know the contents of his shipment and expected to govern himself accordingly." 118 S.E. at 777.

[168] 772 F.2d 1524 (11th Cir., 1985).

[169] ibid. at 1532; "whether Georgia law will require a carrier to assimilate known facts, that the car last contained poison, and that a car which last contained poison would presently contain a residue of that poison, and conclude from this assimilation that the car was dangerous. We do not believe that such a duty is imposed under Georgia Law... He will not, and should not, be required to examine information about the content of the shipment entrusted to him and warn the ultimate consignee of that shipment of any potential dangers arising from the nature of the cargo... There was therefore no duty to warn arising in them because of superior knowledge of the dangerous condition", at 1531.

II. LIABILITY TO THIRD PARTIES

A. The Carrier's Liability

1. Liability to Other Consignors

It may happen that the dangerous goods damage other goods carried with them. At common law, the common carrier is not entitled to forego his responsibility as an insurer of the goods by arguing that there was a dangerous goods or another product with an inherent vice shipped by another consignor in the same vehicle.

In **Missouri P. R. Co. v. Elmore & Stahl**,[170] the Supreme Court spoke of "the acts of third parties, for which no exception from carrier liability is provided"[171]. According to the Court, there was no rule of federal law "which absolves the carrier from liability upon proof that the carrier has exercised reasonable care, and has complied with the shipper's instructions."[172]

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[170] 377 U.S. 134, 12 L.Ed.2d 194, 84 S.Ct. 1142; reh. den. 377 U.S. 984, 12 L.Ed.2d 752, 84 S.Ct. 1880 (U.S.Supr.Ct., 1964).

[171] 377 U.S. 134 at 139.

[172] ibid. at 140; "the burden of proof is upon the carrier to show both that it was free from negligence and that the damage to the cargo was due to one of the excepted causes relieving the carrier of liability." at 138.

Interestingly enough, the burden of liability is not as heavy for the carrier under the Warsaw system. Under that system, the carrier could argue that he took all the necessary measures and the accident happened because of the act of a third person.

In case of carriage not covered by the Warsaw Convention, the IATA Conditions of Contract are completely applicable. According to the Conditions of Contract, the "carrier is not liable unless such damage is proved to have been caused by the negligence or wilful fault of Carrier."

2. Liability to Handlers

The carrier has a duty to warn his employees and all others who handle the hazardous materials. Courts have always been ready to condemn the carrier for damages suffered by these persons, on the basis that the carrier has the duty to warn them of possible dangers and to take reasonable precautions to protect them from injury, no matter whether or not the carrier was aware of the hazardous nature of the product. The carrier must comply with this duty to his employees, as well as to independent contractors.

In **Anderson** v. **Lorentzen**,[173] the stevedores were

[173] 160 F.2d 173, 1947 A.M.C. 502 (2nd Cir., 1947).

injured by cashew nut liquid, a corrosive product, which had leaked while they were unloading the ship. The court stated, "To the extent that the deck was make dangerous by the presence of the liquid which had leaked upon it the deck itself was an unsafe place to work and it was at least the duty of the defendants to warn the stevedores who worked there of that danger."[174]

The defences available to the carrier are few, as courts refuse to consider the carrier's actual knowledge of the dangerous nature of the cargo, that is that the carrier is "charged with whatever knowledge they would have acquired as to the nature and characteristics of cargo carried on their ship by the exercise of reasonable care to acquaint themselves with the facts and were bound to take reasonable precautions in the light of such knowledge to protect the cargo."[175]

So, if those handling the goods are injured, the carrier's "duty to protect those who worked upon the cargo likewise depends upon what they should have known about it as well as upon what they did know."[176]

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[174] 160 F.2d at 175.

[175] ibid.

[176] ibid. This point of view rejected the decision in **Foley v. Chicago & N.W.R. Co.** (12 N.W. 879, 48 Mich. 622 (Supr.Ct. Michigan, 1882). A railway employee was killed when he was ordered by the carrier to put on a side track a railway car which had been filled with nitro-glycerine by

3. Liability to Bystanders

a. The Rome Convention of 1952

The Convention on Damage caused by Foreign Aircraft to Third Parties on the Surface, called the Rome Convention (1952), has a limited practical application to the air carriage of dangerous goods. As the Convention provides for low limits of liability, the Convention has only 36 State parties and is not in force in either U.S.A., U.K., France, Germany, or Canada.[177]

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the shipper. The court said that the railway had a right to assume that the merchandise was in proper and safe packages, and because the employee knew the contents, more "information to him on that subject would have been entirely without value" (12 N.W. at 881). It is interesting to note that the court concluded that handling a car of nitro was not handling the nitro. Instead of dealing with the kind of care the carrier should have provided, the court seemed to see only an extreme solution: "what measures of protection could the defendant take short of absolute refusal to remove the car at all?" (ibid.) No-one can agree that a carrier should be allowed to close his eyes, just to be able to risk the life of his employees, without any liability on his side.

[177] Council, 126th Sess., **Reports of the President of the Council**, ICAO Doc. C-WP/8795, 3 March 1989, at 10. Canada was a party but denounced it in 1976. "The relatively sparse comment on the 1952 Rome Convention, the lack of analysis of the failure of the several governments to ratify it, the absence of any pressure for its adoption-these all indicate an apathy not only on the part of the governments but on the part of the governed." E. G. Brown, "The Rome Conventions of 1933 and 1952: Do They Point a Moral?" (1961-62) 28 Journal of Air Law and Commerce 418 at 442; the 1975

The Convention makes the aircraft operator liable to any person who suffers damage on the surface who is, upon proof only that the damage was caused by an aircraft in flight or by any person or thing falling therefrom, entitled to compensation as provided by the Convention (Art. 1). The Convention does not distinguish between damage caused by dangerous goods and any other cause of damage.

Article 1 Para. 2 adds: "For the purpose of this Convention, an aircraft is considered to be in flight from the moment when power is applied for the purpose of actual take-off until the moment when the landing run ends."

Consequently, if there is a crash and hazardous materials in the aircraft leaks, damaging to the neighborhood, the Convention would not apply, as the landing run had ended. Furthermore, unless a country had adopted different legislation for its own aircraft, the Convention would not apply if the aircraft which caused damage is registered in the same country where damage occurs (Art. 23(1)). The Convention does not apply to damage caused by military, customs or police aircraft (Art. 26). These classes of aircraft are carriers of significant amounts of hazardous materials.

Montreal Protocol amending the Rome Convention has only 11 signatures and 2 ratifications. See also G. Rinck, "Damage Caused by Foreign Aircraft to Third Parties" (1961-62) 28 Journal of Air Law and Commerce 405.

b. Common Law

Liability to a bystander is governed by the ordinary principles of law. In jurisdictions where carriage by air is already considered to be an ultra-hazardous activity engaging the strict liability of the aircraft operator, the fact that the aircraft was carrying dangerous cargo will not make any difference to the carrier's liability, since he is held strictly liable **ab initio**. But in jurisdictions where negligence has to be proven because aviation in and of itself is not considered as an ultra-hazardous activity, then negligence and strict liability based on the performance of another kind of ultra-hazardous activity, the carriage of hazardous materials, are considered.[178]

Naturally, the duty to warn third persons coming into contact with the dangerous product is not restricted to those who have a contractual relationship with the carrier. Nonetheless, an injured bystander has the burden to prove, that the negligence which he relies upon is predicated upon a duty owed to him.

In **United States v. Marshall**[179], a deputy sheriff who

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[178] R. L. Trimble, "Liability for Ground Damage Caused by Aircraft - Trespass - Ultra-Hazardous Activity - Negligence" (1961-62) 28 Journal of Air Law and Commerce 315.

[179] 230 F.2d 183 (9th Cir., 1956).

was asked to help the carrier's employee to fight the fire of a flatcar, was injured when an improperly labelled container of compressed anhydrous ammonia gas exploded. While the carrier argued that the shipper who had not properly labelled the tank was negligent, the court said that the railroad "charged with knowledge of the dangerous shipment, was negligent in permitting the fire to spread, in not extinguishing the fire, and in not warning"[180] the deputy sheriff of his dangerous position. This failure to warn was the direct and proximate cause of the injury. The shipper was held concurrently negligent, for putting dangerous commodities "in transit without sufficient notice to the numerous persons who would come into contact with them in various places and under various circumstances."[181]

A carrier may also be held to be strictly liable for the performance of an abnormally dangerous activity, based on stemming from the principles developed in the British

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[180] ibid. at 190.

[181] ibid. at 188; the standard of care was based on the regulations dealing with the carriage of hazardous materials.

case of **Rylands v. Fletcher**,[182] which have not accepted in all American States.[183]

c. Abnormally Dangerous Activity

The principle of strict liability is found in the American Restatement of the Law (2d) of Torts, where Section 519(1) states: "One who carries on an abnormally dangerous[184] activity in subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm."[185] This section might apply to the carrier, the shipper or the manufacturer.

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[182] 3 H.L. 330. "If a person brings or accumulates on his land anything which, if it should escape, may cause damage, he is responsible, however careful he may have been, and whatever precautions he may have taken to prevent the damage." at 339.

[183] "The doctrine declared in Rylands v. Fletcher, regarded as a general statement of the law, is perhaps not open to criticism in England, but it is subject to many and obvious exceptions there and has not been generally received in this country. A rule which casts upon an innocent person the responsibility of an insurer is a hard one at the best, and will not be generally applied unless required by some public policy, or the contract of the parties." **Pennsylvania Coal Co. v. Sanderson** 113 Pa. 126 at 150, 6 Atl. 453 at 460, 57 Am.St. Rep. 445 (Supr.Ct., Pennsylvania, 1886).

[184] The first Restatement said "ultrahazardous".

[185] 519(2): " This strict liability is limited to the kind of harm, the possibility of which makes the activity abnormally dangerous."

In applying "the modern version of the Rylands v. Fletcher type of strict liability",[186] the courts must determine which activities should be classified as abnormally dangerous ones. Strict liability "is applicable in situations in which social policy require the defendant to make good harm which results to others from abnormal risks which are inherent in activities that are not considered blameworthy because they are reasonably incident to desirable industrial activity. The basis of the liability is the intentional behaviour in exposing the community to the abnormal risk."[187]

Fortunately for the carrier, Section 521 of the Restatement adds: "The rules as to strict liability for abnormally dangerous activities do not apply if the activity

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[186] **Koster & Whyte** v. **Massey** 293 F.2d 922 (9th Cir., 1961), cert.den. 368 U.S. 927, 7 L.Ed. 191, 82 S.Ct. 362 (operation of a junk yard containing bombs).

[187] **McLane v. Northwest Natural Gas Co.** 467 P.2d 635 at 637, 255 Or. 324 (Supr.Ct., Oregon, 1970). The court had to decide if the storage of large amounts of natural gas in a populated area was or not an abnormally dangerous activity. The following guidelines were stated: "We believe the principal factor which brings the activity within the abnormally classifications is not so much the frequency of miscarriage (although this may be important) as it is the creation of an additional risk to others which cannot be alleviated and which arises from the extraordinary, exceptional, or abnormal nature of the activity... A decision concerning who should bear the burden of the risks in an activity involves a balancing of many conflicting interests... Undoubtedly, another factor which enters the picture is the feeling that where one of two innocent persons must suffer, the loss should fall upon the one who created the risk causing the harms", at 638.

is carried on in pursuance of a public duty imposed upon the actor as a public officer or employee or as a common carrier."

Taking into account of the fact that while he carries dangerous goods permitted by law, the common carrier is also complying with a public duty, wisdom should bring us to the conclusion that he should not be strictly liable when he performs this public duty.

Unfortunately for the carrier, section 521 has not always been adopted by courts. There are two important trends in American cases dealing with the carrier's liability to third parties: one, very favorable to the carriers, leaves the victims of the "inevitable accident" to their lot, the other holds the carrier strictly liable and makes him bear the loss of the victims. This trend is relatively recent. Of course, the two trends may both appear when the carrier is negligent in the carriage and the handling.

Unfortunately for the air carrier, the court might rely on the common carrier exception of Section 521 of the Restatement, while considering aviation as a hazardous activity. Thus, damage caused by performance of this activity would still require the imposition of strict liability. Where an air carrier succeeds in showing that he just performs a duty when he carries dangerous goods, such

that strict liability should not apply to him, will nonetheless be subject to strict liability for damage suffered by a bystander merely because he performs a dangerous activity, aviation.

(1) Carrier not Liable without Negligence

In 1887, in **Walker** v. **Chicago, R.I. & P.R. Co.,**[188] a railway carrier had placed a car full of "giant-powder" on a side track. The car caught fire, exploded and caused damage to the neighborhood. The court said that there was no ground for imputing negligence to the carrier and it was for the plaintiff to show that the place where the car was stored was an improper one.

In dicta, the court added: "The evidence shows that while giant-powder is an explosive substance of immense disruptive power, yet, if properly packed, the shipment of it by rail is not attended with any more hazard than the transportation of ordinary merchandise."[189] The court refused to hold the carrier liable if negligence is not proven.

In **Parrot** v. **Wells, Fargo & Co.,**[190] a carrier who

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[188] 33 N.W. 224, 71 IOWA 658 (Supr.Ct., 1887).

[189] 33 N.W. at 226.

[190] 15 Wallace (82 U.S.) 524 (Supr.Ct., 1872).

opened a package of nitroglycerine on rented premises, causing an explosion, was sued in negligence by the owner of the building.[191] The Supreme Court said:

> "No one is responsible for injuries resulting from unavoidable accident, whilst engaged in lawful business[192]... the case stands as one of unavoidable accident... The consequences of all such accidents must be borne by the sufferer as his misfortune."[193]

This rationale was also applied in **Means v. Southern California Ry. Co.**,[194] where a licensee, who was in the freight house of a common carrier, was injured when a tank of sulfuric acid exploded. The court said that nothing proved that sulfuric acid was a dangerous commodity:[195]

> "As the acid was not in itself a dangerous agency, and was contained in iron tanks, such as were usually employed for like shipments, the defendant had a right to assume, as far as plaintiff was concerned, that such tanks were sound and secure, and sufficient to withstand the ordinary perils or dangers incident to transportation, handling and storage."[196]

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[191] The court gave the impression that it would have upheld the suit if it had been based on the contract of lease.

[192] 82 U.S. at 537.

[193] 82 U.S. at 538.

[194] 77 P. 1001, 144 Cal. 473 (Supr.Ct., 1904).

[195] "Neither does the evidence disclose the actual cause of the bursting of the tank whereby plaintiff was injured" 77 P. at 1004.

[196] ibid.

It is interesting to note that 47 years later, the danger of that acid was reconsidered: "The evidence in our case, however, shows just the contrary- that unless handled with more than ordinary care sulfuric acid in drums is dangerous".[197]

In **Actiesselskabet Ingrid** v. **Central R. Co. of N.J.**,[198] in the case of carriage of dynamite, the Court of Appeals explicitly rejected the doctrine of **Rylands** v. **Fletcher** for the common carrier:

> "We think there can be no doubt, so far as a common carrier is concerned, that such danger as necessarily results to others from the performance of its duty, without negligence, must be borne by them as an unavoidable incident of the lawful performance of legitimate business... It certainly would be an extraordinary doctrine for courts of justice to promulgate to say that a common carrier is under legal obligation to transport dynamite and is an insurer against any damage which may result in the course of transportation, even though it has been guilty of no negligence which occasioned the explosion which caused the injury. It is impossible to find any adequate reason for such principle."[199]

As will be seen later, for courts adopting the second trend, public policy can be one "adequate reason". The court also rejected the application of the doctrine of **res**

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[197] **Gall** v. **Union Ice Co.** 239 P.2d at 55 (D.Ct. of App., California, 1951).

[198] 216 F. 72 (2nd Cir., 1914), reh.den. 216 F. 991, cert.den. 238 U.S. 615, 59 L.Ed. 1490, 35 S.Ct. 284.

[199] 216 F. at 78.

ipsa loquitur, as the wrongdoer had not been identified in the explosion of a car load of dynamite[200], and the doctrine of nuisance, because it could not have been said that the car was in an improper place.[201]

The same approach was observed more recently in **Christ Church Parish v. Cadet Chemical Corp.**,[202] in which the exception of Section 521 of the Restatement was relied upon. The court judged that the carrier was not liable for the explosion of chemicals which he was transporting on public highway, because the rule of strict liability applied only to instances involving the use of dynamite in blasting and had not been extended to common carriers:

> "A common carrier, insofar as it is required to carry such explosives as offered to it for carriage, is not liable for harm done by their explosion unless it has failed to take that care in their carriage which their dangerous character requires... The distributor (carrier) of an inherently dangerous substance owes to the public the duty to exercise care commensurate with the danger of its distribution. He is not, however, an insurer of the safety of third persons... The liability of the carrier should be predicated upon its knowledge of the dangerous

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[200] Such a wrongdoer would have to be proven, but "The cause of the explosion is a mystery and cannot be accounted for", ibid. at 80; the victim is under an impossible burden to prove any negligence. The later introduction of a tendency more favorable to him was then predictable.

[201] "But where should they have been removed to? There was no place in Jersey City for the purpose", ibid. at 81.

[202] 199 A.2d 707, 25 Conn.Sup. 191 (Sup.Ct., Connecticut, 1964).

> propensities of the substance it is transporting, together with its use of a standard of care commensurate with the dangerous character of the substance"[203].

The whole burden of proof is on the victim, who has to prove the carrier's negligence, nuisance or argue that **res ipsa loquitur** applies.

(a) Negligence and Nuisance

To prove negligence, the victim has to prove that the standard of care due to him was not respected.

In **Willson** v. **Colorado & S.Ry. Co.**,[204] the standard of care was worded as followed:

> "The law considers explosives dangerous, and requires that those engaged in transporting them should exercise that degree of care to prevent injuries to others therefrom as ordinarily prudent persons, considering their dangerous character, would exercise in similar circumstances, and a failure to do so is negligence."[205]

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[203] 199 A.2d at 708-709. Section 521 was also accepted by the court in **Town of East Troy** v. **Soo Line Railroad Co.**, when it granted a motion to strike a count alleging a claim of strict liability against a railroad whose trains derailed and its content of carbolic acid contaminated water wells in the area. 409 F.Supp. 326 (E.D.Wisconsin, 1976).

[204] 142 P. 174, 57 Colo. 303 (Supr.Ct., Colorado, 1914).

[205] 142 P. at 179. The carrier was held negligent: he had placarded his car in order to give notice of the dangerous contents, he had told the firemen that there was powder, he had no efforts to remove his car.

The court said, in dicta, that the negligent carriage of explosives could constitute a nuisance:

> "Endangering life by leaving a car containing a high explosive in large quantities in a location in circumstances which would constitute negligence constitutes a nuisance. In such case it is not necessary to either plead or prove the immediate cause of an explosion of the powder so kept, for the reason that the original and primary cause of an injury resulting from such explosion is the establishment of a nuisance."[206]

In Ft. Worth & D.C.Ry.Co. v. Beauchamp,[207] where a car containing 28,200 pounds of powder exploded when a fire originating from a car placed nearby spread to the first car, the court said that if the carriage was not a nuisance per se, nonetheless:

> "a nuisance may result from the negligent exercise of a right or performance of a duty with respect to one's own property or property in his charge... A nuisance to others may thus arise from the careless discharge by a common carrier of its duty in the transportation of such dangerous articles as are here in question. The right to carry them does not include the right to subject persons along the route to dangers from explosions for a longer time or in a greater degree than is reasonably necessary to the proper performance of the carrier's duty."[208]

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[206] ibid. at 180.

[207] 685 S.W. 502, 95 Tex. 496 (Supr.Ct., Texas, 1902).

[208] The court said that the carrier's "degree of diligence and the nature of the precautions to be used depend upon the nature and circumstances of the situation and the danger to be avoided", that is a carrier had the duty to avoid the danger. In this case the carrier was held negligent for having let the car so long where it was and

In **Gudfelder v. Pittsburgh, Co., C. & St.L.R. Co.,**[209] the victim was quite far from the place where the dangerous product escaped. A collision between two railway cars in a freight yard resulted in a leak of naphtha from one car in the yard into the sewer. When an employee drove the car near a switch light, the naphtha ignited and a rapid succession of explosions occurred in the sewer near the mouth a culvert at the edge of the river where a bystander was.

The court held the employee was negligent, since the "natural and inevitable consequence of "drawing the punctured car near the burning switch light when the naphtha was leaking from it... would be apparent to the dullest intellect, and must be presumed to have been foreseen by any employé who possessed the requisite intelligence to perform the duties required of him in operating a car containing such a dangerous substance as naphtha".[210] This act was also the proximate cause of the injury, even if the water in the sewer had carried the naphtha: "The water itself, or in connection with the naphtha, was not a self-operating cause of the plaintiff's injury."[211]

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not properly cared for it while it was there. 685 S.W. at 504.

[209] 57 A. 70, 207 Pa. 629 (Supr.Ct., Pennsylvania, 1904).

[210] 57 A. at 72.

[211] ibid.

(b) Contract Carrier and Res Ipsa Loquitur

In **Pope v. Edward M. Rude Carrier Corp.**,[212] the court applied the cases **Ingrid, Fort Worth** and **Walker** to a contract carrier, agent of a manufacturer and shipper of dynamite, found that there was no public nuisance in the mere transportation of dynamite in a motor vehicle upon a public highway, and that the carrier should not be absolutely liable for or an insurer against damages caused by an explosion of dynamite but is liable only for such damages as are caused by its negligence.[213]

Nonetheless, the contract carrier (and the shipper) was held liable as the general allegations of negligence were sufficient under the rule of **res ipsa loquitur**, a rule of evidence which is applied here because of the "agency"

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[212] 75 S.E.2d 584 (Supr.Ct. of App., W. Virginia, 1953).

[213] The court quoted **Hertz v. Chicago, Indiana and Southern Railroad Co.** 154 Ill.App. 80: "A common carrier has the right to receive and transport such dangerous articles of commerce as dynamite and naphtha and while there may be no contract relation between the carrier and a person injured as a result of an explosion, yet the carrier owes to those near enough its train to be affected by its manner of transporting these dangerous articles of commerce, the duty of using such care to avoid injury to others as would be used by an ordinarily prudent man engaged in such transportation under like circumstances." 75 S.E.2d at 596-7.

relationship between the carrier and the shipper.[214] This "doctrine does not dispense with the requirement that the one alleging negligence must prove it, but only relates to the mode of proving it."[215]

It is submitted that **res ipsa loquitur** should not be applied to an air carrier when he carries a dangerous product as a common carrier, since the doctrine "is not applicable, however, to an explosion which causes injury if the person charged with negligence does not have exclusive control and management of the instrumentality which causes the injury at the time the injury occurs"[216] and the negligence of the carrier is not the only possible cause of the damage.

Under **res ipsa loquitur**, it cannot be said that a common carrier, who carries someone's else property, in the exercise of his duties as a common carrier, even if he knows the dangerous character of the property, has the exclusive

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214 "the defendants while in the exclusive control and management of the motor vehicle or truck in transporting the dynamite, by their agents, servants and employees, at a designated time and place, so negligently and carelessly operated the motor vehicle or truck and so negligently and carelessly handled the dynamite that it exploded and injured the plaintiff; that the plaintiff does not know the precise acts or omissions which caused the explosion; and that such explosion would have not occurred unless the defendants had failed to exercise due care in the control, management and operation of the truck." ibid. at 592.

215 ibid. at 593.

216 75 S.E.2d at 591.

control and management of the property. Negligence can arise from acts of the carrier or the shipper. There can be no presumption of negligence on the part of the carrier,[217] or that the "instrument" was under his exclusive control and management.

Nevertheless, according to Pope, the doctrine will apply if the common carrier works as the agent of the shipper.

This might nonetheless be an academic distinction. In an accident involving an aircraft such as a crash, where **res ipsa loquitur** is applied by a court, the damage caused by the "instrument-aircraft" may be more important than the damage caused by the "instrument-dangerous goods".

(2) The Carrier's Strict Liability

Under the doctrine of strict liability, the law holds the person who is engaged in an abnormally dangerous activity liable, regardless of the amount of care he uses,

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[217] "The conclusion to be drawn from the cases as to what constitutes the rule of res ipsa loquitur is that proof that the thing which caused the injury to the plaintiff was under the control and management of the defendant, and that the occurrence was such as in the ordinary course of things would not happen if those who had its control or management used proper care, affords sufficient evidence, or as sometimes stated by the courts, reasonable evidence, in the absence of explanation by the defendant, that the injury arose from or was caused by the defendant want of care", 58 Am.Jur.2d "Negligence" § 474.

"to every person who is injured as a proximate result of that activity, provided that the operator knew, or in the exercise of ordinary care ought to have known the hazard involved and the probability of such a result if that hazard were to materialize."[218]

There is a growing recent tendency of courts to hold the carrier strictly liable to an innocent third party based on either the difficulties of proof a victim encounters when there is an explosion, or simply for purely economic reasons, in light of public policy which states society should protect innocent citizens.[219]

This practice follows the general tendency towards indemnification of the innocent citizen, with blame put on the "industry".

In **Siegler v. Kuhlman**,[220] a car which passed through vapors coming from gasoline that had escaped from a truck,

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[218] **Koster & Whyte v. Massey** 293 F.2d 922 at 923 (9th Cir., 1961), cert.den. 368 U.S. 927, 7 L.Ed. 191, 82 S.Ct. 362 (operation of a junk yard containing bombs).

[219] "The latent nature of most toxic substances often makes proof of causation an insurmountable hurdle for private litigants. The victim confronts substantial difficulty in providing the requisite legal proof and lacks the resources to acquire the necessary information." K. E. Hotzinger, "Common Law and the Toxic Tort: Where Does Superfund Leave the Private Victim of Toxic Torts?" (1982) 86 Dickerson Law Review 725 at 727.

[220] 502 P.2d 1181, 81 Wash.2d 448 (Supr.Ct., Washington, 1972), rev. 473 P.2d 445, 3 Wash.App. 231, cert.den. 411 U.S. 983, 93 S.Ct. 2275, 36 L.Ed.2d 959.

crashed and exploded. Though many facts in this case remained a mystery, the court said that if negligence could be inferred on the ground of the **res ipsa loquitur** doctrine, there was an even more compelling basis for strict liability in this case.

According to the court, if **Rylands v. Fletcher**[221] was used in the case of water escaping from someone's property, the same principle should be applied to the carriage of gasoline as freight along the public highways[222] (amazingly enough, that same year, a court which said that this carriage was a matter of common everyday occurrence, and thus not ultrahazardous, rejected the argument of negligence in that the damage was unforeseeable).[223]

To help the innocent victim, the application of strict liability rests upon abstract notions of justice and problems of proof,[224]

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[221] 3 H.L. 330 (1868).

[222] "The basic principles supporting the Fletcher doctrine, we think, control the transportation of gasoline as freight along the public highways the same as it does the impounding of waters and for largely the same reasons." 502 P.2d at 1184.

[223] **Ozark Industries, Inc. v. Stubbs Transports, Inc.** 351 F.Supp. 351 (W.D.Arkansas, 1972): a tank truck of gasoline fell into a ditch along an highway and, the day after, fishes of a trout farm located 2.9 air miles away were found dead.

[224] "The rule of strict liability rests not only upon the ultimate idea of rectifying a wrong and putting the burden where it should belong as a matter of abstract

> "As a consequence of its escape from impoundment and subsequent explosion and ignition the evidence in a very high percentage of instances will be destroyed, and the reasons for and causes contributing to its escape will quite likely be lost in the searing flames and explosions."[225]

Contrary to other cases which held that the carriage of dangerous cargo is safe if properly carried, the court emphasized the opposite:

> "That gasoline cannot be practicably transported except upon the public highways does not decrease the abnormally high risk arising from its transportation. Nor will the exercise of due care assure protection to the public from the disastrous consequences of concealed or latent mechanical or metallurgical defects in the carrier's equipment, from the negligence of the third parties, from latent defects in the highways and streets, and from all of the other hazards not generally disclosed or guarded against by reasonable care, prudence and foresight."[226]

In the Californian case **Chavez** v. **Southern Pacific Transp. Co.**[227], boxcars loaded with bombs exploded in a railroad yard. The court said that when somebody "exposes others to risks of harm which cannot be eliminated by the exercise of due care, fairness or abstract justice requires

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justice, that is, upon the one of the two innocent parties whose acts instigated or made the harm possible, but it also rests on problems of proof." ibid. at 1185.

225 ibid.

226 ibid. at 1187.

227 413 F.Supp. 1203 (E.D.California, 1976).

the precipitator of the risk to pay for resulting damages. Although the actor's conduct is not so unreasonable as to constitute negligence itself, it is sufficiently anti-social that, as between two innocents, the actor and not the injured should pay for mishaps."[228]

The court's justification for the imposition of strict liability for the miscarriage of an ultrahazardous activity lay in public policy: the carrier was in a position to "administer the loss so that it will ultimately be borne by the public". The court stated:

> "By indirectly imposing liability on those that benefit from the dangerous activity, risk distribution benefits the social-economic body in two ways: (1) the adverse impact of any particular misfortune is lessened by spreading its cost over a greater population and over a large time period, and (2) social and economic resources can be more efficiently allocated when the actual costs of goods and services (including the losses they entail) are reflected in their price to the consumer."[229]

The court expressly rejected the previous cases to the contrary, because they didn't indicate "why the carriers before them should be exempted from strict liability"![230]

It also rejected the common carrier's exception of Section 521 of the Restatement, because there was "no logical reason for creating a "public duty" exception when

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[228] ibid. at 1207.

[229] ibid. at 1209.

[230] ibid. at 1210.

the rationale for subjecting the carrier to absolute liability is the carrier's ability to distribute the loss to the public. Whether the carrier is free to reject or not bound to take the explosive cargo, the plaintiffs are equally defenseless."[231]

This decision was followed by the majority of the Supreme Court of Iowa in 1982, in **National Steel Service Centre v. Gibbons,**[232] in which a railway carrier was held strictly liable for the damages occurred by the derailment of tanks cars loaded with propane gas which exploded.

The court declined to adopt the common carrier's exception of Section 521:

> "Here we have two parties without fault. One of them, the carrier, engaged in an abnormally dangerous activity under compulsion of a public duty. The other, who was injured, was wholly innocent. The carrier was part of the dangerous enterprise, and the victim was not. The carrier was in a better position to investigate and identify the case of the accident. When an accident destroys the evidence of causation, it is fairer for the carrier to bear the cost of that fortuity. Apart from the risk distribution concept, the carrier is also in a better position that the ordinary victim to evaluate and guard against the risk financially."[233]

It is surprising to note from these cases that

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231 ibid. at 1214.

232 319 N.W.2d 269.

233 ibid. at 272.

courts have suddenly considered as "ultrahazardous" what had been seen as "safe" for years.

In **Siegler**, the court said that the carriage of gasoline on highways is so "ultrahazardous" that even due care could not be enough to avoid the damage. Twenty years before another case said that the shipper of gasoline should not be strictly liable for "ultrahazardous activity" in "view of the general usage of gasoline, the need of using the public highways in its distribution, the administrative facilities available for the regulation of its transportation, and the great care ordinarily followed in handling it."[234]

(3) Strict Liability, Consignors and Passengers

Applicable with respect to injured bystanders, strict liability was rejected for cargo claims of other consignors in admiralty law, as this would intrude upon the established statutory scheme concerning the carriage of goods by sea. This same principle could be applied to the Warsaw Convention.

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[234] **Collins v. Liquid Transporters** 262 S.W.2d 382 at 383 (Ct. of App., Kentucky, 1953).

In **EAC Timberlane v. Pisces, Ltd.,**[235] a vessel exploded and sank, with all her cargo. The preponderance of evidence showed that it was caused by the spontaneous heating and combustion of the organic packing material surrounding detonator caps and not by the carrier's negligence. The case was found to be governed by the **Carriage of Goods by Sea Act** (COGSA), which states that the carrier has the burden of proof that the cause of damage arose without his actual fault.[236]

The court excluded strict liability in these terms:

> "The parties disagree, however, as to the correct standard of liability under general maritime law. The plaintiffs contend that the defendants, as carriers of ultrahazardous materials, were strictly liable for the loss of cargo... This proposition is not supported by the case law... the need for uniformity in admiralty law is well recognized... The imposition of a rule of strict liability for the carriage of ultrahazardous materials, which varies from state to state, would destroy this uniformity and intrude upon the "established statutory scheme concerning carriage of goods by sea" adopted by Congress. Adoption of this rule would, therefore, be inconsistent with established principles of general maritime law."[237]

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[235] 745 F.2d 715 (1st Cir., 1984).

[236] 46 USCS Appx § 1304(2)(q): The carrier shall not be responsible for loss or damage arising from... "any other cause arising without the actual fault and privity of the carrier... but the burden of proof shall be on the person claiming the benefit of this exception to show that the actual fault... contributed to the loss or damage."

[237] ibid. at 721-722.

The court rejected the Californian decision in **Chavez**, saying that § 521 of the Restatement might exempt the common carrier if § 519 was applicable in admiralty.[238]

Similarly, the principle could be applied to the Warsaw system. The carrier will have more success with a passenger than a bystander. When a flight, such as an American domestic flight, is not covered by the Warsaw Convention, courts normally require proof of negligence to find air carriers negligent.[239]

If the flight is covered by the Warsaw system, the air carrier is then held liable for damage suffered by the passenger (Article 17) but his liability is limited, except in case of wilful misconduct (Article 25), or a carrier's act or omission done with the intent to cause damage or recklessly and with knowledge that damage would probably result (Art. XIII of the Hague Protocol), or except if the carrier proves that he took all the necessary measures to avoid the damage. The international carriage "to, from, or with an agreed stopping place in the United States", covered by the 1966 Montreal Agreement, holds the air carrier

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[238] ibid. at 721, note 12.

[239] S. D. Sugerman, "Right and Wrong Ways of Doing Away With Commercial Air Crash Litigation: Professor Chalk's "Market Insurance Plan" and Other No-Fault Follies" (1987) 52 Journal of Air Law and Commerce 681 at 683.

strictly liable but his liability is limited to a certain amount of money, except in cases of wilful misconduct.

(4) Strict Liability and the Air Carrier

More and more, dangerous goods have to be carried because they are important factors in our economy. Nevertheless, because somebody performs an activity which is useful to the community does not mean that he has the right to endanger another's life. As a court said to railroads builders: "We appreciate the necessity of the work defendant was doing... Railroads must be built and their way often must be blasted through rock; but no such necessity could give defendant license to blow plaintiff out of her bed."[240]

In fact, no airline would accept for carriage something if he knows that, with all the care he could give to his cargo, an accident would occur anyway. Insurance companies have always been ready to accept risks though not unavoidable accidents caused by ultrahazardous activity. The doctrine of strict liability of the carrier is of great help to the innocent victim when the proof of the cause of the accident is difficult. The author supports the idea

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[240] **Salpino** v. **Smith** 135 S.W. 1000 at 1003, 154 Mo.App. 524 (Kansas City Ct. of App., Missouri, 1911).

that carriers should charge more to carry these products to cover the premiums of a special insurance, thus spreading the risks to all shippers.

It is also submitted that strict liability should not be applied only because the evidence is difficult for the victim to find. If it was so, strict liability would become the rule with liability based on negligence only the exception! When there is an explosion or when all the witnesses to an accident die, the proof of negligence might be impossible to establish. It is well known that it was for reasons like these that indemnification plans without liability such as workmen's compensation acts were adopted in many countries. In these schemes, the employees and employers pay a certain amount to the government who, in return, indemnifies the employee, up to a monetary limit.

With the modern tendency of protecting the innocent citizen against the "industry", the field of strict liability will be extended to protect innocent victims. In 1959, a court dealing with a collision between two ships, one owned by military and filled with gasoline of jet fuel, said that it hoped that Courts should begin to upheld the Restatement for ultrahazardous activity "in an effort to

bring the American law more into step with the demands of modern conditions".[241]

The person who puts into the public circulation a dangerous product, that is, the consignor, should be the one to whom strict liability should apply, the carrier should only be liable for his negligence. The shipper creates additional risk by asking the common carrier to carry his product. Nonetheless, within the air carriage of goods, the negligent shipper can be somewhere in the Indian Ocean and the victim somewhere in Canada, making the claim of the Canadian victim illusory. Thus courts favour the strict liability of the air carrier.

This remains an academic discussion in jurisdictions where aviation is already considered by itself as an abnormally dangerous activity leading to strict liability.

(5) Strict Liability in Canada

The concept of non-natural use, mischief and escape developed in Rylands v. **Fletcher** are used in Canada when

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[241] **Petition of Oskar Tiedemann & Co.** 179 F.Supp. 227 at 238, note 15 (D. Delaware, 1959), aff'd 289 F.2d 237 (3rd Cir., 1961).

applying strict liability[242] (except in the Province of Québec which has a Civil Code of French origin).

There were nonetheless no cases dealing with the "common carrier" exception, and in an era of deregulation of the air transportation industry, the air carrier could hardly pretend that he was forced to carry the dangerous goods in order to comply with his duty as a common carrier. Moreover, Canadian Regulations specifically state that dangerous goods cannot be carried by air in Canada except as authorized by the Minister.

In several cases, the supplier of natural gas was held strictly liable for damage caused to someone's premises.[243] A "person who takes a dangerous article on another person's property and causes damage to the latter" was held to a higher degree of liability than the person who has the dangerous article on his own land[244] and the "rule covers cases in which the dangerous thing is brought or carried along the highway".[245] Thus the air carrier of

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[242] A. M. Linden, **Canadian Tort Law**, 4th ed. (Toronto: Butterworths, 1988) at 483.

[243] **Lohndorf v. British American Oil Co. Ltd.** [1958] 24 Western Weekly Reports 193 (Alberta Supr. Ct., 1956).

[244] **Ekstrom v. Deagon and Montgomery** [1946] 1 Dominion Law Reports 208 at 217 (Alberta Supr.Ct., 1945).

[245] **Dokuchia v. Domansch** 1945 Ontario Reports 141 at 146 (Ct. of Appeal, 1945).

dangerous goods will probably find himself in a similar position.

In the Province of Québec, third party victims are covered by Article 1054 (1) of the Civil Code which deals with the liability of the keeper of a thing. The keeper is under a presumption of fault, and must prove that the accident did not come from an act of the keeper.[246]

B. The Shipper

There is tendency in the case law to impose an insurer's liability upon the shipper although the traditional approach was followed by the Pope court of 1953, which rejected "absolute" liability.[247]

If strict liability has to be applied for abnormally dangerous activity, it should apply to the shipper. In

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[246] In French civil law, see: R. Gouilloud, "Notes sur la Responsabilité du Transporteur de Marchandises Dangereuses" Bulletin des Transports (19 décembre 1986) 702 at 703. In **Tristant c. Centre régional de Lutte contre le cancer de Marseille** (Gazette du Palais II.137 (Trib. civ., Marseille, 8 juin 1950), the court recognized that radium was in the category of thing covered by Article 1384 of the French civil code.

[247] It said that the "manufacturer and shipper of the dynamite by a licensed contract carrier as its agent, is not an insurer against or absolutely liable for injuries caused by the explosion which occurred during such transportation, when it did not create or maintain a nuisance in such transportation but is liable only for such injuries as are caused by its negligence." 75 S.E.2d at 597.

Pierce v. Winsor,[248] the court decided that "where damage is sustained in a case not falling within the category of an inevitable accident, and neither party is in actual fault, the loss shall fall on him who, from the relation he bears to the transaction, is supposed to be possessed of the necessary knowledge to have avoided the difficulty."[249]

So, two elements govern the application of the test, the inevitability of the accident, and the transaction. In the United States the injured bystander has a good claim under the doctrine of strict liability against the shipper and the manufacturer of the dangerous product on two grounds: (1) they are performing an abnormally hazardous activity and (2) they have put into the commerce a product which, even if it is not defective, becomes unreasonably dangerous.

The rationale behind the two bases for imposing strict liability is similar. In **Ind. Harbour Belt R. Co. v. Am Cyanamid Co.**[250] of 1981, dealing with a spillage of acrynolite from a freight car which resulted in the evacuation of 3,000 persons from their homes, the court said

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[248] 19 Fed.Cas. 646 (1861).

[249] ibid. at 651, per Clifford J.

[250] 517 F.Supp. 314 (N.D.Illinois, 1981); the court was dealing with a motion to dismiss counts for failure to state a strict liability claim, i.e. allegations of ultrahazardous activity.

that "while cases imposing strict liability for subjacent support and products liability are not relevant to determine whether the complaint may stand on the basis on an ultra hazardous activity, some of those cases are helpful in discussing the bases for imposition of strict liability."[251]

1. Abnormally Hazardous Activity

In **Ind. Harbour Belt R. Co.**,[252] a manufacturer shipped acrylonitrile, a hazardous and toxic substance, by a leased railway car. It was leaking when the car arrived in a second carrier's yard where it was to be transferred, and its spillage resulted in extensive damage to property, equipment, and the water supply over a two mile area.

An analysis of the State cases on products liability, demonstrated that "Illinois courts have made value judgments seeking to protect the public from various harms."[253] So the court accepted the application of the doctrine of strict liability to a shipment of acrylonitrile as an abnormally dangerous activity, saying that the opinion in **Chavez** and **Siegler** provided "persuasive rationales for finding liability in analogous circumstances".[254]

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[251] ibid. at 317.

[252] 517 F.Supp. 314 (N.D.Illinois, 1981).

[253] ibid. at 318.

[254] ibid. at 319.

In **Harrison v. Flota Mercante**[255], a longshoreman was injured when he had inhaled fumes from a barrel of "liquid chemical isobutyl acrylate" while he was loading the barrels, becoming seriously ill and totally disabled. The court said that the "seller or supplier must exercise reasonable care to inform those who may use or come into contact with the product of its dangerous propensities... This duty extends to longshoremen who assist in transporting the product to its ultimate use."[256]

The court concluded that the proximate cause of the injury was the shipper's failure to give adequate warning. The only warning given was against "prolonged" breathing and nothing showed that the workers knew or should have known of the actual danger involved from such inhalation.

Of course, where if strict liability is not applicable in a particular jurisdiction, a claim of negligence remains possible. In **Standard Oil Co. v. Tierney**,[257] the court refused to consider the fact that the carrier was aware of the dangerous nature of the product when an employee of the latter went to examine the leak in

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[255] 1979 A.M.C. 824, 577 F.2d 968 (5th Cir., 1978).

[256] 577 F.2d at 977. See also **Martinez v. Dixie Carriers, Inc.** 529 F.2d 457 at 465 (5th Cir., 1976).

[257] 17 S.W. 1025, 92 Ky. 367 (Ct. of App., Kentucky, 1891).

a barrel with a lantern, causing an explosion as a defence for the shipper.[258]

It was the shipper's duty to label the barrels in order to inform the employee (here, the conductor) of the inflammable character of the substance they contained. He is liable "unless they were so marked as that one exercising ordinary care and prudence with reference to his own personal safety, and whose duty it was to handle the barrels, should have ascertained the danger."[259]

It is then a shipper's duty to label his products so that an air carrier's employee is informed of the dangerous nature of a particular substance. It is not only a "common law" duty, but a statutory one.

a. Common Law Duty versus Statutory Duty

As shown earlier, the common law may come into conflict with the American **Hazardous Materials Regulations.**

Where common law is also State or local law, a court

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[258] "There was an implied, if not a positive, duty on the part of both corporations to notify those who handled this substance of its dangerous character, and no arrangement between them, although made in the best of faith, by which dynamite was to be shipped as powder, or naphta as carbon oil, should protect the appellant from a violation of this duty it owed to the hands of employes (sic!) whose duty it was to keep it secure, and to handle it when necessary." 17 S.W. at 1026 and 1027.

[259] ibid. at 1027.

might then be confronted with the inconsistency between the HMTA and the common law.

The Court in **Andre v. Union Tank Car Co., Inc.**[260] stated that "even if there is no express preemption of this common law action, preemption implied from legislative intent may be inferred to arrive at this conclusion."[261] It concluded that the H.M.T. Act preempted the State common law in this field:

> "In order to protect the nation adequately against the risks of life and property which are inherent in the transportation of hazardous materials in commerce, Congress consolidated and expanded the department's regulatory and enforcement authority. To allow the state common law action to survive in this case would, in essence, provide the state with an expansion of its regulatory authority, allowing a new reservoir or differing and possibly incompatible railroad safety laws."[262]

2. The Shipper and Manufacturer under Canadian "Common Law"

Contrary to the US courts, Canadian courts did not adopt strict liability for product liability, rather the

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[260] 516 A.2d 277 (N.J.Sup.C., 1985).

[261] "Three questions can be asked: First, is there a pervasive scheme of federal regulations in the area; second, is the federal intent in such area dominant; and third, do the objectives of the federal law in the area and the obligations imposed by it reveal the same purpose." 516 A.2d at 284 and 285.

[262] 516 A.2d at 285.

injured user still has to prove fault.[263] Negligence must be proven against the shipper who put the dangerous product into the stream of commerce or into the airways.

The most famous case considering whether a manufacturer gave adequate warning is **Lambert** v. **Lastoplex Chemicals**,[264] where the manufacturer put three labels on the cans of lacquer sealer. According to the Supreme Court, the manufacturer has the duty to **specify** the possible dangers. A general warning is not sufficient.[265]

This "common law" duty is nonetheless entrenched in a statute, and since 31 October 1988,[266] all suppliers of nearly 140,000 industrial products have the duty to label their products containing a dangerous ingredient.[267]

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263 "this American strict tort liability "explosion" has not caused so much as a ripple on our placid Canadian waters, despite the similarity in the products and consumption habits", Linden, op. cit. at 562.

264 1972 S.C.R. 569 (1971).

265 ibid. at 574 and 575.

266 **An Act to Amend the Hazardous Products Act and the Canada Labour Code, to Enact the Hazardous Materials Information Review Act and to Amend Other Acts in Relation Thereto**, 1987, c. 30; Registration Canada Gazette Part II, 1987, at 3987.

267 "Matières Dangereuses: Étiquetage Obligatoire à Compter du 31 Octobre" Les Affaires (9 juillet 1988) S-2.

III. THE AIR CARRIAGE OF NUCLEAR MATERIALS[268]

The carriage of nuclear materials by air is widespread. With the importance of nuclear medicine, radioactive pharmaceuticals have to be carried by air to the hospitals, since they rapidly deteriorate. In 1974, the Air Line Pilots Association estimated that one in ten public carrier flights carried radioactive materials.[269]

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[268] "The shippers and their agents work overtime in the field of public relations. They go into detail how safe radioactive material is, no more dangerous than the dial on your watch. This is going to save the life of a little old lady in Cedar Rapids. How could it possibly hurt you? However, the fact remains, they are dangerous and hazardous materials, and must be treated as such." Capt. James A. Eckols, Hearings before a Subcommittee of the Committee on Government Operations, House of Representatives, 92nd Congress, 1st and 2nd Session, December 1, 1971, **Transportation of Hazardous Materials**, at 204.

[269] D. B. Atchley, "Air Transportation of Radioactive Materials and Passenger Protection under international law" (1975) 5 California Western International Law Journal 425 at 426-7. See also: E. O. Bailey, "Air Carrier Liability for Nuclear Damage" (1968) 34 Journal of Air Law and Commerce 524; E. Du Pontavice, "Réflexions sur le transport par air et par mer des matières nucléaires" (1972) 35 Revue générale de l'air et de l'espace 140; D. Eyberg, "Air Transportation of Radioactive Materials" (1974) 40 Journal of Air Law and Commerce 681; A. W. G. Kean, "The Aircraft Operator and Nuclear Materials" (1963) Journal of Business Law 21; J. P. Lundington, "Tort Liability Incident to Nuclear Accident or Explosion" 21 American Law Reports 3d 1356; R. S. Lee, "An Evaluation of International Legal Protections in Nuclear Air Carriage" (1966) 26 Zeitschrift fur auslandisches öffentliches Recht und Volkerrecht 602; R. S. Lee, **Liability for Nuclear Damage Caused by Flight Instrumentalities** (Institute of Air and Space Law, McGill University, LL.M. Thesis, 1964) [unpublished].

The most widely reported incident of radioactive contamination happened on Delta Air Lines Passenger Flight 925 on 31 December 1971.[270] A small quantity of radioactive materials leaked from a shipment onboard, contaminating the aircraft. The shipment had been sent from Tuxedo, New York, to Houston, Illinois. It was discovered by the consignee of another shipment, two days after arrival as the airlines had rescheduled its aircraft, through different airports in 10 cities. Nine hundred and seventeen passengers were carried aboard the aircraft before the contamination was found. They were contacted by phone and advised to undergo physical examinations.[271]

It was "concluded that this incident occurred because of the improper packaging of a bulk liquid radioactive shipment in a poorly maintained Type B container. A contributing factor was the transport by air with the package lying on its side."[272]

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[270] National Transportation Safety Board, "Report of Aircraft Radioactive Contamination Incident, Delta Air Lines, Inc., December 31, 1971". There was also (1) the 1965 incident of the leaking of a radioactive gas (Iodine-135) aboard a TWA aircraft: two dogs in the cargo compartments inhaled it; (2) in 1969, a package was found to have external contamination by the consignee, but no contamination was detected on the aircraft.

[271] "The results of the passenger survey indicated that neither passengers nor employees had been subjected to a personal health hazard although some had been exposed to more radioactivity then is acceptable under the concept of the lowest practical exposure of people to radiation." ibid. at 44.

[272] ibid. at 49.

Following the Delta Air Lines incident, the National Transportation Safety Board issued a "Special Study of the carriage of Radioactive Materials by Air".[273] It stated that "most of the enforcement action is taken is "after the fact", as a followup on incident/accident investigations."[274] The Boards's primary concern was "the risk potential created by the rapid expansion and by the change in the nature of the nuclear industry."[275]

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[273] Report Number: NTSB-AAS-72-4, adopted: April 26, 1972. "The Board concludes that, at this time, the radioactive materials carried by aircraft do not normally constitute any unusual risk of injury to the public... However, as the Government (AEC) relinquishes more and more of its activities to private industry, and as the industry continues its rapid growth, the proliferation of the system presents new demands for vigilance if the current minimal risk to the public is not to rise... although most air carriers believed that they have adequate procedures and training, the practices used in the field and the extent and quality of the training of their handlers are not always of the highest quality", at 16 and 17.

[274] ibid. at 15. "The Board's study has revealed that the profusion of regulations and tariffs pertinent to the various modes concerning the handling and carriage of hazardous materials has given rise to considerable confusion and some misunderstanding by manufacturers, shippers, and carriers." at 18.

[275] ibid. at 17. "We found that the nuclear industry is undergoing rapid expansion, and it is expected to continue. The overall growth rate is currently about 15 percent per year. The radio-pharmaceutical field is expending at approximately 25 percent per year..." Hearings before the Subcommittee on Government Activities of the House Committee on Government Operations, 92nd Congress, 1st and 2nd Sessions, **Transportation of Hazardous Materials**, John H. Reed, Chairman, NTSB, June 28, 1972, at 310.

A. Damages Caused

That which makes the carriage of nuclear materials different from the carriage of other kinds of materials is the specificity of the damage they can cause. The somatic effect of radioactivity is well known: while the human body does not detect anything, the radiation affects the body's atoms by moving the electrons. The effect can be immediate or long term. Cancer can result. The effect can also be genetic, i.e. affecting the future generation. The genetic effect is hard to relate to a radioactive incident, due to the lack of available data. As to the effect of a radioactive incident, it varies from a person to another one.

The danger of radioactive materials is increased when they are transported, since they are no longer in the hands of laboratories, but manipulated by personnel who do not have the same kind of knowledge of the exact risks posed by the materials and would not react with the same kind of reflexes in cases of accident.[276]

Nonetheless, some authors believe that the public is

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[276] Y. Duvaux, "Le Transport des Matières Radioactives" in **Aspects du Droit de l'Énergie Atomique.** Puget, Henry, ed., Centre Français de Droit Comparé. (Paris: Centre National de la Recherche Scientifique, 1965), T. 1, 185 at 188.

in less danger from the carriage of nuclear materials than from the carriage of flammable or explosive materials.[277]

The fundamental legal questions with respect to radiation injuries are: (1) What types of injuries shall be compensable? (2) How can biological causation be proved? (3) If compensation is to be allowed, how should it be computed and dispensed? (4) Should the future generation(s) have a right to sue?[278]

It is obvious that the "classical" principles of law are inadequate when nuclear materials are involved. Those principles were incorporated in our legal system at a time where the effects of radioactivity were unknown. One author has even suggested that the proof of "faute" in nuclear energy led to an dead-end since nuclear energy is in itself a "force majeure".[279]

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[277] E. B. Stason, S. D. Estep, W. J. Pierce, **Atoms and the Law** (Ann Arbor: The University of Michigan Law School, 1959) at 193.

[278] Dealing with the first three questions, Prof. Estep wrote: "Until the legal profession, working with legislators and government officials, has answered these basic questions, our society is not ready to assimilate fully the technology being developed by the nuclear scientists." S. D. Estep, "Radiation Injuries and Statistics: The Need for a New Approach to Injury Litigation" (1960) 59 Michigan Law Review 259 at 261.

[279] "De toute façon, l'emploi des matières fissiles est en soi tellement dangereux qu'il faut bien admettre la possiblilité d'une réparation en dehors de toute faute. Même l'utilisation de la présomption de l'article 1384, alinéa 1er, paraît inadéquate puisqu'elle suppose en droit belge, la preuve d'un vice et peut en outre être renversée

Even with strict or absolute liability, proof of biological causation is necessary in our legal system. Some authors have advocated a contingent injury fund based on statistical experience.[280] It may be easy to demonstrate damage when a certain affected population shows a higher than normal rate of cancer. However, if only these passengers sitting in the Business Class of Flight 013 are affected because of spillage in or under this section of the aircraft, a passenger who suffers from cancer 10 years later might have problems successfully establishing the cause of his problem, as it would be quite hard to trace the other passengers on this particular flight.

The proof of causation becomes more difficult when two or more shippers have badly packed their consignments and radiation is proven to have escaped during the flight. Which shipper is liable for the passenger sitting on seat M-13? What about the passenger who is injured while on the aircraft only because he had been exposed to his maximum

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par la preuve d'une force majeure. Ici l'on débouche sur une impasse car l'énergie atomique est, en soi, une force majeure." J.-M. Demargne, "La responsabilité civile nucléaire" (1981) 96 Journal des Tribunaux 665 at 666.

[280] E. O. Bailey, "Air Carrier Liability for Nuclear Damage" (1968) 34 Journal of Air Law and Commerce 524 at 550.

allowable dose of radiation earlier in the day due to an accident at work?[281]

Thousands of shipments of radioactive materials are made by air. In May 1964, Canada sent 28,000 lbs. of radioactive material to Düsseldorf by air in a single shipment.[282]

The ICAO Technical Instructions contain regulations dealing with radioactive materials. The problem begins when shippers or operators do not respect those Instructions or States' regulations. There is unfortunately no international convention widely adopted which could help efficiently the passenger or the shipper in the case of a spillage or badly packaged product which damages his body or his goods.

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[281] The victim is left with the presumptions of **res ipsa loquitur**. Article 1353 of the French Civil Code says that the presumptions which are not established by law are left to the judge's "prudence", who shall only accept them when they are "graves, précises et concordantes". The equivalent article in Quebec only states that they "are left to the discretion and judgment of the court." Article 1242. "... il est trop souvent impossible de préciser à quelles radiations ionisantes le dommage se rapporte, mais a défaut de preuves impossibles, on dispose des présomptions telles que définies par l'article 1353..." C.-A. Chenu, "Preuve et Responsabilité Civile Atomique" in **Aspects du Droit de l'Énergie Atomique**. Puget, Henry, ed., Centre Français de Droit Comparé (Paris: Centre National de la Recherche Scientifique, 1965), T. 1, 31 at 37.

[282] R. S. Lee, "An Evaluation of International Legal Protections in Nuclear Air Carriage" (1966) 26 Zeitschrift für auslandisches öffentliches Recht und Volkerrecht 603.

B. International Conventions

1. The Warsaw Convention

The Warsaw Convention is deficient in many aspects with respect to the compensation of victims of nuclear damage. The main deficiency is in its limitation provisions. Bodily injuries caused by radiations may take time to appear. While scholars agree that statutes of limitations are inadequate in case of radiation injuries, Article 29 of the Warsaw Convention still states:

> (1) The right to damages shall be extinguished if an action is not brought within two years, reckoned from the date of arrival at the destination, or from the date on which the aircraft ought to have arrived, or from the date on which the carriage stopped.
> (2) The method of calculating the period of limitation shall be determined by the law of the Court seised of the case.

The Warsaw Convention of 1929 was drafted at a time when it was considered normal to protect air carriers from the risks of air transport. It was natural to provide for a shorter limitation periods for air carriers than for other members of the society.

Nonetheless, the spillage of a radioactive material in an aircraft is certainly not in the categories of risks of air travel that a passenger accepts when he boards an aircraft. Should he suffer leukemia four years later, it is

clear that the air carrier would have benefited from the industry, the carriage of nuclear materials, without suffering the risk associated with it. Should a serious spillage occur in an aircraft and irradiate 400 passengers, the public would certainly pressure their governments to change this too short limitation provision.

Another deficiency is the limits of liability provided for in the Convention. Should a spillage result many years later in cancer, and/or birth defects, it is obvious that limits of compensation are ridiculously low.

The Convention is silent as to who has the right to sue. This is important as future generations can be affected. Article 17 of the Convention only talks about the carriers' liability for damages suffered by a passenger. Could abnormal new-born children sue the carrier in their own right? The children had no contract with the carrier and were not passenger as such. The scope of the action would be outside of the Convention and left to municipal law.

Should municipal law recognize this right to sue, children would argue that the negligent act of a shipper or a carrier was the cause of damage to their DNA before they were born and even conceived. A carrier would not be able to argue successfully the limits and limitation provided for by the Convention.

This remains nonetheless an academic and theoretical question. The right of an unborn child to sue in his own right for damage suffered to his DNA before birth is nonexistent in most municipal law, as the unborn had no legal existence at the time of the damage.

2. Nuclear Conventions

Two important conventions on nuclear liability were signed in the sixties: the Convention on Third Party Liability in the Field of Nuclear Energy signed in Paris on 29 July 1960 (the Paris Convention) and completed by an additional protocol signed on 28 January 1964, elaborated by the OEEC[283] for regional purposes, and the Convention on Civil Liability for Nuclear Damage signed in Vienna on 1 May 1963 (the Vienna Convention), elaborated by the International Atomic Energy Agency.

Even with the deficiencies of the Warsaw and the Rome Conventions, the inclusion of air transport in them was not seen as necessary. Moreover, the Conventions are of limited scope as far as air carriage is concerned, since they cover only carriage in which a nuclear installation is concerned, and do not include the "radioisotopes outside a nuclear

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[283] Organization for European Economic Co-operation, now OECD (Organization for Economic Cooperation and Development).

installation which are used or intended to be used for any industrial, commercial, agricultural, medical or scientific purpose."[284]

a. The Paris Convention

The purpose of the Paris Convention is to channel all liability to the operator of a nuclear installation,[285] who is liable without proof of fault, with a limited monetary liability. Nonetheless, nuclear products must come from nuclear installations.

Article 6 states that the right to compensation may be exercised only as against an operator liable for the

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[284] A. W. G. Kean, "The Aircraft Operator and Nuclear Materials" (1963) Journal of Business Law 21 at 22. Vienna Convention, Article 1 g.: "Radioactive products or waste means any radioactive material... but does not include radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial or industrial purpose"; Paris Convention, Article 1 (iv): "but does not include... (2) radioisotopes outside a nuclear installation which are used or intended to be used for any industrial, commercial, agricultural, medical or scientific purpose."

[285] ""Nuclear installation" means reactors other than those comprised in any means of transport; factories for the manufacture or processing of nuclear substances; factories for the separation of isotopes of nuclear fuel; factories for the reprocessing of irradiated nuclear fuel; facilities for the storage of nuclear substances other than storage incidental to the carriage of such substances; and such other installations in which there are nuclear fuel or radioactive products or waste as the Steering Committee of the European Nuclear Energy Agency... shall from time to time determine." Article 1 (a) (ii).

damage, or his insurer. No other person shall be liable, but "this provision shall not affect the application of any international agreement in the field of transport."[286]

Nonetheless, should another person be held liable under such an international agreement or "under any legislation of a non-Contracting State", he will have a claim against the operator, within the limits established by the Convention. The operator shall provide the carrier with a certificate of the security required by the Convention. The limitation period is 10 years.[287]

b. The Vienna Convention

Drafted with a view to wider international adoption, the Vienna Convention repeats many of the principles found in the Paris Convention. It also channels liability to the operators of nuclear installations without proof of fault, if damage is caused in his nuclear installation or involves nuclear material coming from or originating from his

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[286] A Contracting Party may provide by legislation that a carrier may, at his request and with the consent of an operator of a nuclear installation, be liable in accordance with this Convention in place of that operator (Article 4 (e)).

[287] National legislation may establish a period of not less than two years either from the date at which the person suffering damage has knowledge or from the date at which he ought reasonably to have known of both the damage and the operator liable, provided the period of 10 years is not exceeded (Article 8 (a)).

nuclear installation or sent to his nuclear installation (Article II).

As in the Paris Convention, the State may consider a carrier as an operator, if the carrier requests so with the consent of the operator. Also, if all liability is channeled to the operator, this "shall not affect the application of any international convention in the field of transport". The operator must provide the carrier with a certificate issued by or on the behalf of the insurer or the financial guarantor.

As the Convention is for the protection of third parties, it does not apply to the operator's liability for nuclear damage to the means of transport of the nuclear material at the time of the nuclear incident, though State may provide by legislation that the Convention applies subject to a provision limiting compensation.

The limitation period is ten years, except if in the Installation State the insurance or special funds covering liability is for a longer period.[288]

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[288] Article VI.

c. Conflicts between Conventions

(1) ICAO and the Nuclear Conventions

In 1959, the ICAO Secretary General submitted a report on the work of the European Nuclear Energy Agency, an agency of the Organization for European Economic Cooperation, which was preparing the Paris Convention, to the ICAO Council, concerning damage arising during the carriage of nuclear materials.

Since the Convention was to place all liability on the operator of the nuclear installation, there would be a conflict with the Warsaw and Rome Conventions.

He asked the following questions:

- Should the Rome and Warsaw Conventions be modified with respect to nuclear goods?

- Should the risk inherent in the carriage of nuclear materials be one that could properly be brought within the regime of existing aviation liability conventions or should it be left outside of such conventions?

  - If within the existing regime, should the question of possible amendment be considered.

- If not, should the Warsaw and Rome Conventions be amended so as to exclude the carriage of nuclear materials.

- Partial application of the regime of existing conventions to the carriage of nuclear materials: this item would involve consideration of such matters as limitation of liability, non-limitation of liability in certain cases, fora in which actions would be brought, etc.

The Secretary General proposed that the subject matter, the "Carriage of nuclear materials by air" be included in Part A (active part) of the Working Programme of the Legal Committee, and that a sub-committee be appointed.[289]

Council members said they would prefer to consult their governments, and decided to refer the matter to the Legal Commission of the Assembly.[290]

According to one member it was premature to consider

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[289] Council, 36th Sess., **Carriage of Nuclear Materials by Air**, ICAO Doc. C-WP/2907, 10 March 1959.

[290] Council, 36th Sess., Minutes of the 22nd Meeting, 25 March 1959, ICAO Doc. 7988-22 C/916-22, 30 October 1959, at 268.

the legal aspects of such a carriage, at a time when some States permitted its carriage, and others did not.[291]

At the meeting of the ICAO Legal Commission on 23 June 1959, the Chairman said that the Commission seemed to be in agreement with the following points:

- The carriage of nuclear materials by air should be included in Part A and receive special treatment.
- A rapporteur should be nominated and report on the relationship between any convention on the carriage of nuclear materials and the relevant international air law conventions.
- They should closely follow the work of OEEC and IAEA, since neither the experts in air law of the States concerned, nor the Legal Bureau of ICAO, had been associated with this work.[292]

Nonetheless, this subject was not given any specific rank of priority in Part A.[293]

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[291] ibid.

[292] Assembly, 12th Sess., Legal Commission, Minutes of the 4th Meeting, 23 June 1959, ICAO Doc. 8010 A12-LE/1, 1959, at 22 to 24.

[293] Legal Committee, 14th Sess., **Summary of the Work of the Legal Committee during its Fourteenth Session, 28 August - 14 September 1962**, ICAO Doc. 8266 LC/148, 15 September 1962, Annex E, at 29; Assembly, 14th Session, Legal Commission, **Agenda Item No. 30: Programme of Future Work of**

After the Assembly, the Rapporteur met with the experts of IAEA who informed him they intended to draft a convention like the Paris Convention, in which liability would be channeled to the operator of the nuclear installation. Some expressed the opinion that if nuclear substances were carried by air, the liability for the accident should be placed on the air carrier. The Rapporteur "pointed out" "that it would be extremely awkward if they did anything in conflict with existing conventions on air law."[294]

The Rapporteur said later to the Legal Commission that it was too late for ICAO to initiate a convention on the subject, in view of the fact that there was a convention of the OECD and a draft convention by IAEA, but that it was necessary to participate in their work. The Convention should also cover possibles collision between aircraft and nuclear installations.[295]

In 1965, the Rapporteur stated that there would be no further work on this subject until the two Conventions on

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the Organization in the Legal Field, ICAO Doc. A14-WP/39 LE/2, 11 May 1962, at 2 and 3.

[294] Legal Committee, 12th Sess., Minutes of the 25th Meeting, 3 September 1959, ICAO Doc. 8111-LC/146-1, 1960, at 253 para. 34.

[295] Assembly, 14th Sess., Legal Commission, Minutes of the 2nd Meeting, 23 August 1962, ICAO Doc. 8279-2 A14-LE/11, 1962, at 19.

liability for nuclear accidents entered into force. At that time, amendments might be made to the Warsaw and Rome Conventions. He then proposed that this subject be placed in Part B of the Working Programme, a proposition which was accepted.[296]

That was no further work on the subject and when the Legal Commission of the Assembly at its 23rd Session (1980) recommended that the General Programme of the Legal Committee should have regard to the anticipated development and requirements of international civil aviation in the 1980's,[297] the subject disappeared from the General Programme.

(2) The Guatemala Protocol Amending the Warsaw Convention

On the representations of ICAO, both Article 6 of the Paris Convention and Article II.5 of the Vienna Convention avoid conflicts with the provisions which placed liability on the operator of nuclear installation and the conventions in the field of transport "in force or open for signature,

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[296] Assembly, 15th Sess., Legal Commission, Minutes of the 3rd Meeting, 28 June 1965, ICAO Doc. 8517-3 A15-LE/10, 1965, at 29.

[297] Assembly, 23rd Sess., Legal Commission, **Reports and Minutes**, ICAO Doc. 9314 A23-LE, 1980, at 14 para. 22:48; Panel of Experts on the General Work Programme of the Legal Committee, **Introductory Note**, PE/PLC-WD/1, 3 April 1981, at 1.

ratification or accession at the date of this Convention".

The "Exposé des motifs" explains that:

> "It has been thought advisable not to interfere with existing international agreements in the field of transport... especially since countries outside Europe are parties to them... To avoid the possibility of conflicting provisions, it is laid down that the Convention does not affect the application of such agreements".[298]

Protocols open for signature after the Paris or Vienna Conventions will have to have specific provisions if they do not want to come in conflict with the provisions which channel all liability to the operator. It seems that this question was forgotten.

The 1971 Guatemala Protocol amending the Warsaw Convention, which makes the carrier absolutely liable for injury or death of a passenger or for damage to baggage unless inherent vice is the only cause, is in conflict with the Paris and Vienna Conventions as to the liability of the operator, as it was open for signature after both Conventions. A State party to the Vienna Convention will have to make a reservation for nuclear incidents when it ratifies the Guatemala Protocol. Nonetheless, Article XXIII of the Protocol limits the possibility of reservations to the problems of lawyer's fees and military aircraft! Such

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[298] Exposé des Motifs, paragraph 34, (1960) 27 Journal of Air Law and Commerce 393.

reservation is then not permitted and the conflict cannot be legally resolved.[299]

"Even if the matter may not be one of great practical importance", an ICAO Member State suggested remedying the situation, and incorporating a "nuclear provision" in future protocols amending the Warsaw and the Rome Conventions.[300]

(3) The 1975 Montreal Protocol No. 4 Amending the Warsaw Convention

The Commission of the Whole of the International Conference on Air Law, which adopted the Montreal Protocol No. 4 amending the Warsaw Convention, as amended by the Hague Protocol, discussed this question.

One suggestion made was that a provision be inserted similar to Article 20 of the 1974 Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, which stated that no liability shall arise under the

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[299] "Legally speaking, there is, therefore, no solution to the conflict between the Guatemala Protocol and the Paris or Vienna Convention." U. K. Nordenson, "Comparison from the Legal Point of View" in **Maritime Carriage of Nuclear Materials: Proceedings of the Symposium in Stockholm, 18-22 June 1972**, by the International Atomic Energy Agency and the OECD Nuclear Energy Agency with the Collaboration of FORATOM (Vienna: International Atomic Energy Agency, 1973), 317 at 344; Legal Committee, 21st Sess., 3-22 October 1974, **Documents**, ICAO Doc. 9131-LC/173-2, 1975, at 44.

[300] Legal Committee, ibid. at 46.

Convention for damage caused by a nuclear incident if the operator of a nuclear installation is liable under the Paris or Vienna Conventions or under its national law if such "law is in all respects as favourable to persons who may suffer damage as either the Paris or Vienna Conventions."[301]

Another suggestion was not to refer to any international conventions in particular, since some countries might not have ratified them, and just to mention that there would be no liability if the operator of a nuclear installation was liable for such damage under an international convention or national law governing liability for nuclear damage.[302]

Both proposals were rejected. The main reason was that many countries had not ratified these international conventions and it was difficult for them to refer to conventions not applied by the courts of their countries, or to talk about the meaning of "nuclear incident" or "operator of a nuclear incident", or to oblige the citizen of their countries to sue a nuclear operator in a remote foreign country, with all the problems arising therefrom. Some did

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[301] International Conference on Air Law, Montreal, September 1975, **Volume II Documents, Comments of Sweden**, 11 June 1975, ICAO Doc. 9154-LC/174-2, 1975, at 101.

[302] ibid., **Alternative Proposal by Australia on Nuclear Damage**, 15 September 1975, at 172.

not want to create another legal defence for the air carrier.[303]

The only reservations possible in the Protocol relate to military aircraft and, if Protocol No. 3 is ratified, to passengers and cargo.[304]

(4) The 1978 Montreal Protocol Amending the Rome Convention

Due to the reluctance of States to ratify the Rome Convention on Damage caused by Foreign Aircraft to Third Parties on the Surface, the 1978 Montreal Protocol was opened for signature to amend it.

Since some countries were parties to the nuclear conventions and other not, it was suggested that reservations be made with respect to nuclear damage.[305] On the other hand, another State was of the opinion that "until such time as there is comprehensive legislation in the

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[303] International Conference on Air Law, Montreal, September 1975, **Volume I Minutes**, Commission of the Whole, Minutes of the 19th Sess., 16 September, ICAO Doc. 9154-LC/174-1, 1977, at 204 to 207.

[304] Article XXI.

[305] International Conference on Air Law, Montreal, September 1978, **Minutes and Documents, Comments of the Kingdom of the Netherlands**, ICAO Doc. 9357-LC/183, 1982, at 245. See G. F. FitzGerald, "The Protocol to Amend the Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface (Rome, 1952) Signed at Montreal, September 23, 1978" (1979) 4 Annals of Air and Space Law 29 at 33 and 65.

matter, this liability [strict liability with limitations] should be included in the Rome provisions when the nuclear damage is caused by an aircraft in flight."[306] Another participant at the Conference introduced the idea of excluding nuclear damage from the scope of the Convention, as in the 1971 Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material.[307]

Article 1 of the latter Convention states that any person held liable under an international convention or national law shall be exonerated if the operator of a nuclear installation is liable under the Paris or Vienna Convention or national law. Article 4 adds that the present Convention shall supersede any international Conventions in the field of maritime transport to the extent that such Convention would be in conflict with it.

On discussion of this issue, France introduced a provision relying on Article 26 of the Rome Convention.[308] So, the Protocol states, at Article XIV, that Article 27 of the Convention should read as follows: "This Convention shall not apply to nuclear damage". The conflict with

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306 ibid., Comments of Uruguay, at 240.

307 ibid., Comments by IATA, at 270.

308 ibid., Commission of the Whole, Minutes of the 16th Meeting, 18 September 1978, at 121 and 122; Minutes of the 17th Meeting, 19 September, at 123 and 124; Minutes of the 7th Plenary Meeting, 22 September 1978, at 167 and 168.

nuclear conventions would then be avoided. The Protocol is not yet in force, as only 2 States have ratified it.[309]

3. The Convention on the Physical Protection of Nuclear Material

Initiated by the American Secretary of State in 1974,[310] the Convention on the Physical Protection of Nuclear Material was signed on 3 March 1980, and entered into force on 8 February 1987, with the ratification of 21 States.

Article 3 of the Convention states:

> "Each State Party shall take appropriate steps within the framework of its national law and consistent with international law to ensure as far as practicable that, during international nuclear transport, nuclear material within its territory, or on board a ship or aircraft under its jurisdiction insofar as such ship or aircraft is engaged in the transport to or from that State, is protected at the levels described in Annex 1."[311]

It creates prohibited transactions involving nuclear materials, such as unlawfully transferring nuclear material and thereby knowingly causing injury or damages, or taking

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[309] Council, 126th Sess., **Reports of the President of the Council**, ICAO Doc. C-WP/8795, 3 March 1989, at 10.

[310] 52 Federal Register 9650, 26 March 1987.

[311] Annex I to the Convention: Levels of Physical Protection to Be Applied in International Transport of Nuclear Material as Categorized in Annex II.

away nuclear material with intent to deprive someone. In the United States, penalties include a maximum of a $250,000 fine and life imprisonment.[312]

C. Regulations

1. The International Atomic Energy Agency

The International Atomic Energy Agency was established on 26 October 1956.[313] Since 1961, it has publishe Regulations for the Safe Transport of Radioactive Materials by all modes of transportation. These Regulations serve as the basis for the ICAO Technical Instructions for the carriage of these materials, as well as for many national regulations. According to one IAEA's official:

> "When the radioactive material is in the appropriate packaging and the carrier follows a few simple rules for stowage and segregation from persons and photographic film, based on information provided by the package labels, it can be carried at least as safely as other

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[312] Enacted as 18 USCS § 831 by Act Oct. 15, 1982, P.L. 97-351, § 1, 96 Stat. 1663, which deleted the items relating to the former sections §§ 831-835 (Transportation of explosives, radioactive materials, etiologic agents, and other dangerous articles, etc.).

[313] The Agreement between the Agency and the UN was approved by Resolution 1145 (XII), 14 November 1957. The UN recognized IAEA as the agency responsible for the international activities concerned with the peaceful uses of atomic energy. See **1957 Yearbook of the United Nations** (New York: United Nations, 1958) at 29.

potentially dangerous goods that are continuously being transported throughout the world."[314]

IAEA convened a Panel of Experts on 2 to 9 April 1959 in Vienna for the preparation of draft regulations for the Safe Transportation of Radioactive Materials. It asked ICAO for comments, but several commissioners of the Air Navigation Commission felt that the Commission was being invited to step into fields beyond its normal professional activities.[315]

In the drafting of regulations for radioactive materials (the first ones became effective on 1 June 1958), the position of IATA's Permanent Working Group on Restricted Articles was that IATA was "largely dependent upon the action be taken by the main isotope producing countries of the world, such as Canada, United Kingdom, and the United States" and their readiness to accept the IAEA Recommendations.[316]

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[314] G. E. Swindell, "IAEA Revised Regulations for the Safe Transport of Radioactive Materials" in **Maritime Carriage of Nuclear Materials: Proceedings of the Symposium in Stockholm, 18-22 June 1972**, by the International Atomic Energy Agency and the OECD Nuclear Energy Agency with the Collaboration of FORATOM (Vienna: International Atomic Energy Agency, 1973), 57.

[315] Council, 38th Sess., Minutes of the 5th Meeting, 18 November 1959, ICAO Doc. 8018-5 C/918-5, 9 December 1959, at 59.

[316] **Report of Tenth Meeting IATA Permanent Working Group on Restricted Articles Paris, April 30th - May 4th, 1962, at 45.**

IATA first had a liaison member with IAEA, and in 1963 the IATA Permanent Working Group established a Study Group to examine the IAEA Regulations on the Safe Transport of Radioactive Materials in detail and to formulate detailed provisions for the carriage of radioactive materials by air.[317]

The IAEA Regulations were later put into the ICAO Technical Instructions.

2. The United States

In the United States, the Nuclear Regulatory Commission[318] (NRC) is responsible for such goods. It issues a license for the possession and use of the materials. Requirements for transportation are made in cooperation with the DOT, and its subsidiary agencies.[319]

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[317] **Report of Eleventh Meeting IATA Permanent Working Group on Restricted Articles Geneva, April 29th - May 8th, 1963**, at 47 para. M/138.

[318] The previous Atomic Energy Commission was abolished by Act October 11, 1974, P.L. 93-438, Title I, § 104 (a), 88 Stat. 1237.

[319] A "Memorandum of Understanding Between the United States Interstate Commerce Commission and the United States Atomic Energy Commission for Regulation of Safety in the Transportation of Radioactive Materials Under the Jurisdiction of the Interstate Commerce Commission and the Atomic Energy Commission" was signed on 21 March 1967, and transferred to the DOT following the DOT Act. Published as Attachment H, Hearings before a Subcommittee of the House Committee on Government Operations, 92nd Congress, 1st and

Following their Memorandum of Understanding, the DOT is in charge of regulating transportation of nuclear materials and the NRC is regulating its use, possession and transfer.[320] On 4 October 1968, the DOT published a new set of regulations to substantially conform to the IAEA regulations.[321]

Radioactive materials can be used only under a license from the NRC. Nonetheless, the air carrier, who is covered by the DOT regulations, is exempted from the NRC safety regulations.[322] The Hazardous Materials Transportation Act prohibits the issuance of regulations for the transport of radioactive materials on passenger-carrying aircraft "unless the radioactive materials involved are intended for use in, or incident to, research, or

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2nd Sessions, June 28, 1972, at 383. This memorandum was superseded by one of 1973 and by another one signed on 8 June 1979 between the NRC and the DOT.

[320] 2 July 1979, 44 Federal Register 38,690.

[321] Hazardous Materials Regulations Board, Docket HM-2, 33 Federal Register 14918.

[322] 10 C.F.R. §30.13: "Common and contract carriers... are exempt from the regulations in this part and Parts 31 through 35 and 39...and the requirements for a license set forth in section 81 of the Act to the extent that they transport or store byproduct material in the regular course of carriage in the regular course of carriage for another or storage incident thereto." § 40.12: Exemption for license under 62 of the Act for source material except for a transient shipment of uranium of more than 500 kg; § 70.12: Exemption for special nuclear material except for storage in transit or transport by persons covered by the general license issued under § 70.20a and § 70.20b.

medical diagnosis or treatment, so long as such materials as prepared for and during transportation do not pose an unreasonable hazard to health and safety."[323]

3. Canada

In Canada, the Transportation of Dangerous Goods Regulations[324] stipulate that no person shall transport dangerous goods in Class 7 (radioactive materials) unless the dangerous goods are packaged and handled in accordance with the Transport Packaging of Radioactive Materials Regulations.[325]

IV. LIABILITY IN INTERNATIONAL CONVENTIONS

Of the main means of transportation, railroad, road, sea and air, carriage by air is the only one which does not have a specific provision on liability for dangerous goods in the international conventions now in force, if one does not take into account Annex 18 to the Chicago Convention which only sets Standards and Recommended Practices. The

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[323] 49 USCS § 1807(a).

[324] SOR/85-77, 18 January 1985, Canada Gazette Part II, 6 February 1985, at 466.

[325] SOR/83-740, 29 September 1983, Canada Gazette Part II, 12 October 1983, at 3553.

reason for this was certainly that the means of transport itself was considered a danger, so that in a contract between a shipper and the air carrier under the Warsaw Convention, the main danger faced was the fact that the goods were carried by air. With respect to liability for third parties on the ground, the Rome Convention makes the operator liable, without taking into account the fact that there are dangerous goods on board.[326]

A. Historical Background

1. Rail

The first international convention for the unification of the law relating to the carriage of goods was the international convention concerning the transport of goods by rail (CIM) of 1890.[327]

The shipper is liable for the packing when the nature of the goods requires one to preserve them from damage.[328]

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[326] Except for the 1978 (Montreal) Protocol amending this Convention which does not apply to nuclear damage (Article XIV of the Protocol).

[327] Convention Internationale sur le transport de marchandises par chemin de fer. Du 14 octobre 1890- Internationale Uebereinkommen über den Eisenbahnfrachtverkehr. Vom 14. Oktober 1890. G. Fr. de Martens, F. Stoerk, **Nouveau Recueil Général de Traités**, 2ième Série, T. XIX, (Goettingue: Librairie Dieterich, 1894) at 289.

[328] Article 9.

The railroad is not liable for damage arising from the inherent nature of goods.[329]

Article 3 states that special dispositions will determine the goods which, because of the danger they represent, will be excluded from the Convention. The "Dispositions Réglementaires § 1" say that gun powder, dynamite, etc. are excluded from the Convention and that the objects enumerated in the Annex 1 to the Convention are acceptable for transport only if they comply with the conditions of the Annex. Annex 1 is a description of the specifications necessary for different dangerous goods to be accepted for carriage.

2. Sea

The 1924 International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading stated that the carrier shall not be responsible for loss or damage arising or resulting from insufficiency of packing, marks, or latent defects not discoverable by due diligence.[330]

Moreover, the Convention provided that the carrier could discharge dangerous goods on-board without its

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[329] Article 31 (4).

[330] Article 4 (2) (n) to (p).

knowledge without compensation.[331] This right was contained in the 1924 French law on air navigation.[332]

3. Road

The 1956 Convention on the Contract for the International Carriage of Goods by Road (CMR) contains a special provision, based on the 1924 Convention on Bills of Lading, which makes a shipper's liability more onerous in the case of dangerous goods.[333]

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[331] Article 4 (6): "Goods of an inflammable, explosive or dangerous nature to the shipment whereof the carrier, master or agent of the carrier has not consented with knowledge of their nature and character, may at any time before discharge be landed at any place, or destroyed or rendered innocuous by the carrier without compensation, and the shipper of such goods shall be liable for all damage and expenses directly or indirectly arising out of or resulting from such shipment. If any such goods shipped with such knowledge and consent shall become a danger to the ship or cargo, they may in like manner be landed at any place, or destroyed or rendered innocuous by the carrier without liability on the part of the carrier except to general average, if any."

[332] **Loi relative à la navigation aérienne du 31 mai 1924** Journal Officiel 3 juin 1924, at 5046. Article 44: Le commandant de l'aéronef a le droit de faire jeter en cours de route les marchandises chargées, si ce jet est indispensable au salut de l'aéronef. Aucune responsabilité ne saurait incomber au transporteur envers l'expéditeur et le destinataire à raison de cette perte de marchandises. Mais la responsabilité des dommages causés à la surface du sol subsiste.

[333] M. de Gottrau, "Obligations et Responsabilités en Transport International (Art. 22 de la C.M.R.)" Bulletin des Transports (19 Décembre 1986) 706.

Article 22 provides that a shipper shall inform the carrier of the exact nature of the danger, and if necessary, the precautions to be taken. The sender or the consignee has the burden of proving that the carrier knew the exact nature of the danger. The carrier may discharge the dangerous goods when he did not know of their dangerous character without the need to pay compensation. The sender is liable for all expenses arising out of the handing over of the goods for carriage or of their carriage.

4. The Multimodal Convention

The special regime of a consignor's liability in Article 22 of the CMR was included in the U.N. Convention on International Multimodal Transport of Goods (1980) in

Article 23.[334] There are no limits of liability for the consignor.[335]

5. Air

There is no mention of dangerous goods the 1929 Warsaw Convention. The air carrier shall be liable for damage to cargo except if he proves that he took all the

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[334] Article 23-1. The consignor shall mark or label in a suitable manner dangerous goods as dangerous.

2. Where the consignor hands over dangerous goods to the multimodal transport operator or any person acting on his behalf, the consignor shall inform him of the dangerous character of the goods and, if necessary, the precautions to be taken. If the consignor fails to do so and the multimodal transport operator does not otherwise have knowledge of their dangerous character:

(a) The consignor shall be liable to the multimodal transport operator for all loss resulting from the shipment of such goods; and

(b) The goods may at any time be unloaded, destroyed or rendered innocuous, as the circumstances may require, without payment of compensation.

3. The provisions of paragraph 2 of this article may not be invoked by any person if during the multimodal transport he has taken the goods in his charge with knowledge of their dangerous character.

4. If, in cases where the provisions of paragraph 2(b) of this article do not apply or may not be invoked, dangerous goods become an actual danger to life or property, they may be unloaded, destroyed or rendered innocuous, as the circumstances may require, without payment of compensation except where there is an obligation to contribute in general average or where the multimodal transport operator is liable in accordance with the provisions of article 16.

[335] G. F. FitzGerald, "The United Nations Convention on the International Multimodal Transport of Goods" (1980) 5 Annals of Air and Space Law 51 at 69.

necessary measures to avoid damage or that he could not take them.[336]

The only material amendment made by 1955 International Conference on Private Air Law in the Hague Protocol was to allow carriers to exclude or limite their liability in the case of damage caused by goods of a special nature.[337] The effect is the possibility to remove the provisions relating to the carrier's liability in case of goods of a special nature from the regime of the Warsaw Convention.

The 1975 Montreal Protocol No. 4 amending the Warsaw Convention, as amended by the Hague Protocol, for the first time enabled the air carrier to exclude liability where goods are inherently defective.

The Protocol makes the air carrier strictly liable "for damage sustained in the event of the destruction or

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[336] Articles 18 and 20.

[337] "A difficulty experienced in actual practice was the absence of a provision in the Convention which would enable an air carrier to make special stipulations in regard to the risks of carrying cargo of special characteristics, such as live animals or goods suffering natural deterioration during carriage by air. A provision in this respect based upon analogous provisions of maritime law has therefore been proposed to be added to Article 23 of the Warsaw Convention (Article XII of the draft Protocol). International Conference on Private Air Law, The Hague, September 1955, Volume II Documents, Report on Revision of the Warsaw Convention (Adopted by the Legal Committee of ICAO at Rio de Janeiro in September 1953), ICAO Doc. 7686-LC/140, September 1956, at 97 para. 14.

loss of, or damage to, cargo upon condition only that the occurrence which caused the damage so sustained took place during the carriage by air" (Article IV amending Article 18 (2) of the Convention). Some defences were made available to the carrier. He is not liable if he proves that the destruction, loss of, or damage to the cargo resulted solely from an inherent defect, quality or vice of that cargo, or from defective packaging of that cargo as performed by a person other than the carrier, his servants or agents.

At the International Conference, IFALPA,[338] in light of the 1973 crash in Boston, suggested that there should be a supplemental provision on carriers who failed to ensure adequate packaging or stowage of dangerous cargo.[339] This provision would state that the carrier could not exonerate himself if the person claiming compensation proved that the carrier was negligent or that he failed to ensure that the packaging or stowage of the cargo was in conformity with

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[338] International Federation of Air Line Pilots Associations.

[339] "The Federation is aware of the problems associated with selecting in the convention one example of negligence as a lex specialis of the general provision on negligence. It is felt, however, that this special treatment is fully warranted by the dangerous nature of some of the material which the pilots of the world carry on board their aircraft and by the serious accidents which have occurred in the past." International Conference on Air Law, Montreal, September 1975, Volume II Documents, Comments of IFALPA, 9 September, ICAO Doc. 9154-LC/174-2, 1975, at 67.

existing applicable regulations or adequate for the purpose of transportation by air.

Support for the proposition was withheld for many reasons.[340] Some States found that this would put far too heavy a burden on the carrier and might encourage carelessness on the part of the shippers, who were responsible for their packing. Other considered that "any solution within the framework of the Warsaw Convention could, however, be only a very partial solution and... a more complete and effective one could be found in a technical forum such as the Air Navigation Commission or the Council of ICAO."[341] The Protocol has only 19 ratifications.[342] States appear to be waiting for the action by the United States which is still unsatisfied with the monetary limits provided for in the Protocol and wants a satisfactory Supplemental Plan which would "properly" indemnify US nationals.[343]

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[340] ibid., **Volume I Minutes**, Commission of the Whole, Minutes of the 11 Meeting, 10 September 1975, at 117 to 119.

[341] ibid., Minutes of the 14th Meeting, 12 September 1975, at 150.

[342] Council, 126th Sess., **Reports of the President of the Council**, ICAO Doc. C-WP/8795, 3 March 1989, at 10.

[343] N. M. Matte, "The Warsaw System and the Hesitations of the U.S. Senate" (1983) 8 Annals of Air and Space Law 151; E. F. Hollings, "Defeat of the Montreal Protocols: Victory for Airline Passengers" 19 Trial (Washington D.C.) (7 May 1983) 20; A. Tobolewski, **Monetary Limitations of Liability in Air Law: Legal, Economic and Socio-political**

B. Transfrontier Movements of Hazardous Wastes

While the OECD Environment Committee works on an international agreement on hazardous wastes, in March 1989 the United Nations Environment Programme (UNEP) held a diplomatic conference which adopted a global convention on transfrontier movements of hazardous wastes.[344]

1. OECD Draft International Agreement on Control of Transfrontier Movements of Hazardous Wastes

The OECD is drafting an international agreement on the control of transfrontier movements of hazardous wastes.

Contracting Parties would co-operate to improve the control of transfrontier movements, take measures towards the harmonization of technical standards and practices for the adequate management of hazardous wastes and "prohibit all persons under their national jurisdiction from transporting or disposing of hazardous wastes which are

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Aspects (Montreal: De Daro Publishing, 1986).

[344] ECOSOC, Committee of Experts on the Transport of Dangerous Goods, **Report of the Committee of Experts on its Fifteenth Session (5-14 December 1988)**, UN Doc. ST/SG/AC.10/15, 10 January 1989, at 5.

subject of a transfrontier movement, unless they are authorised or allowed".[345]

Contracting Parties shall require exporters to arrange adequate packaging, labelling and transport of hazardous wastes in accordance with generally accepted and recognized international rules, standards and practices, and employ only carriers and disposers who are authorised or allowed to perform hazardous waste transport and disposal operations.[346]

Contracting Parties shall also require that exporters, carriers, importers and disposers comply with the procedures set out in Annex 2, and that exporters correctly fill out the Hazardous Waste Notification and Shipment Document (set out in Annex 1) and classify the wastes as specified in Annex 1. Each carrier must record on Form B of the Documents that he has received the wastes while the final carrier must certifie on Form A that those wastes have been delivered to the disposer.[347]

They shall also require that when an aircraft containing hazardous wastes is obliged, for technical

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[345] OECD, Environment Committee, **Revised Draft International Agreement on Control of Transfrontier Movements of Hazardous Wastes**, Doc. ENV(87)9(4th Revision), 20 May 1988, Article II.3 (d).

[346] Article IV.

[347] Article V.

reasons or as a result of force majeure, to land on the territory of a Contracting Party which was not originally planned to be a transit country, that it informs the airport authorities of that State of the presence and nature of the hazardous wastes.[348]

Nonetheless, the Environment Committee of the OECD agreed that before deciding about the status of the future international agreement, it would review the progress under the UNEP Convention.[349]

2. UNEP Global Convention on the Control of Transboundary Movements of Hazardous Wastes

On 17 June 1987, the Governing Council of the United Nations Environment Programme approved the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes,[350] and authorised the Executive Director of UNEP to convene a working group of legal and technical experts with a mandate to prepare a global convention on the control of transboundary movements of hazardous wastes to be

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[348] Article IX.

[349] HJK, "Productive Powwow in Geneva" Hazardous Cargo Bulletin (April 1989) 7.

[350] Decision 14/30 of the Governing Council, Doc. UNEP/GC.14/17, Annex II. Part VI deals with the transport of hazardous wastes, on rules, documentation, notification, consent procedure, etc.

based on the Cairo Guidelines and Principles and the relevant work of other bodies. The Ad Hoc working group held its first session in February 1988 and suggested a draft convention which was adopted in March 1989.[351]

One State suggested to the Working Group the formation of a global system to survey hazardous wastes management with a view to helping developing countries to strengthen and develope their technical capacities.[352]

The International Road Transport Union adopted a Resolution on the transport of hazardous wastes, which says that wastes are characterised not by the particular risk of their transportation but by the difficulties in stocking

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[351] The aim of the Convention is to establish control measures that would:

> "1. lead to major reduction in the generation of hazardous wastes and thus eliminate the need for their movement;
>
> 2. make it very difficult to get approval of movement of hazardous wastes with the goal of reducing to a minimum their transboundary movement and of ensuring that such movement is only permitted when it is equally or more environmentally sound to dispose of waste far rather than close to where it is generated; and
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> 3. ensure that what is moved - what is internationally transported - is moved and is ultimately disposed of under the most environmentally safe conditions available."

UNEP, Ad Hoc Working Group of Legal and Technical Experts with a Mandate to Prepare a Global Convention on the Control of Transboundary Movements of Hazardous Wastes, 3rd Sess., Geneva, 7-16 November 1988, **Report of the Ad Hoc Working Group on its Third Session**, UN Doc. UNEP/WG.189/3, 16 November 1988, at 2 and 3.

[352] ibid. at Annex II.

and eliminating. The Union was against new regulations dealing with the carriage of hazardous wastes. This matter was already covered by the U.N. Recommendations of the Committee of Experts.[353] Moreover, the past catastrophes of Seveso in Northern Italy, Bhopal in India and St-Basile-le-Grand in Canada, were not caused by the transportation of wastes but by their storage.

C. De Lege Ferenda

While the world community is waiting for the United States to adopt the system of liability of the Montreal Protocols, the fields of carriage by sea and by road are actively towards new international conventions on the carriage of dangerous goods.

At the 1974 International Conference on Safety of Life at Sea, the Conference adopted Resolution 1 Appendix 11 which recommended that the Inter-Governmental Maritime Consultative Organization (IMCO)[354] continue its work with other international organizations and the UN Committee of Experts "with a view to adoption of a self-contained International Convention on the Carriage of Dangerous Goods

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[353] Issued on 14 June 1988.

[354] Today the International Maritime Organization (IMO).

by all Modes of Transport at the earliest practicable opportunity."[355]

The Economic and Social Council of the UN adopted Resolution 1973 (LIX) of 30 July 1975 requesting the Committee of Experts to study, in consultation with other organizations such as ICAO and IATA, the possibility of a joint approach to the drafting of an international convention.[356]

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[355] "THE CONFERENCE,
NOTING the rapid increase in the carriage of dangerous goods by different modes of transport,
REALIZING the need to ensure the safe and economical transport of dangerous goods by unification of national, regional and international rules governing the carriage, stowage and handling of dangerous goods by all modes of transport,
RECOMMENDS that the Organization should continue its work in co-operation with other international organizations concerned and in particular the United Nations Committee of Experts on the Transport of Dangerous Goods with a view to the adoption of a self-contained International Convention on the Carriage of Dangerous Goods by all Modes of Transport at the earliest practicable opportunity."
Already in 1972, the Canadian delegation had introduced a resolution adopted by the United Nations/IMCO Conference on International Traffic, 1972, recommending to the ECOSOC and international organizations concerned "to foster the adoption of a single system of identification, classification and labelling of dangerous goods at the earliest practicable opportunity." UN Doc. E/Conf.59/41 at 17 para. 103 and E/Conf.59/44.

[356] "2. **Also requests** the Committee of Experts to study, in consultation with other bodies concerned, particularly the United Nations Conference on Trade and Development, the Inter-Governmental Maritime Consultative Organization, the International Civil Aviation Organization, the International Air Transport Association and the regional commissions, the possibility of a joint approach to the drafting of an international convention on the transport of dangerous goods

The need for such a convention was not obvious to everybody. The representative of the Central Office International Railway Transport stated that "the need for such a convention was less pronounced in Europe, where extremely comprehensive sets of regulations such as RID and ADR were available, than in other regions." Since the convention would be supplemented by specific rules for each mode of transport, ratification was likely to take a long time.[357]

In 1980, the Group of Rapporteurs of the U.N. Committee of Experts decided recommend, for the time-being, priority be given to the harmonization of the existing rules and recommendations with the U.N. Recommendations.[358] The Committee has continued to follow with interest the development of the UNEP, UNIDROIT, and IMO draft conventions.

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by all modes of transport which would take into account the general scope of a future convention on international intermodal transport, and to report to the Economic and Social Council the results of its study".

[357] ECOSOC, **Report of the Committee of Experts on its Tenth Session 4 - 13 December 1978**, UN Doc. ST/SG/AC.10/4, 1979, at 5 para. 11 and 12.

[358] "This would mean declaring that for the time being the convention was not desirable until more conformity between existing rules and recommendations had been achieved".
Report of the Group of Rapporteurs on its Twenty-Fifth Session (11-22 February 1980), U.N. Doc. ST/SG/AC.10/C.2/6, at 3.

1. Draft Convention on Civil Liability for Damage Caused During the Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels

In 1972, the Government of the Netherlands requested the inclusion in UNIDROIT's (International Institute for the Unification of Private Law) working programme, a study of the feasibility of preparing an international convention relating to civil liability for damage caused as a consequence of the carriage of hazardous cargo.[359]

A Draft Convention was issued in November 1986[360] and is now under the consideration by the Inland Transport Committee of the Economic Commission for Europe.

The Committee decided in February 1987 to entrust to an ad hoc meeting the consideration of questions concerning the development of an international regime of civil liability for damage caused during the carriage of dangerous goods by road, rail and inland navigation, on the basis of the UNIDROIT text and other possible approaches. Four

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[359] UNIDROIT, 51st Session of the Governing Council, Rome 29-31 May 1972, **Report**, at 25.

[360] UNIDROIT International Institute for the Unification of Private Law, **Explanatory Report on the Draft Articles for a Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail, and Inland Navigation Vessels** UNIDROIT 1986 Study LV - Doc. 80, Rome, November 1986.

meetings were held and a drafting group met in September 1988 to finalize the text.[361]

The Committee rejected joint liability for the shipper and carrier. The basis of liability would be the strict liability of the carrier, supplemented by a limitation in compensation, to be agreed upon by taking into account the financial capability of enterprises and the insurance market.

The Convention[362] would also apply to the period of loading and unloading, but not:

- to claims arising out of any contract for the carriage of goods or passengers;
- when the vehicle on which the dangerous goods has been loaded is carried by aircraft;
- to damage caused by a nuclear substance if the operator of a nuclear installation is liable under nuclear conventions or national law; and

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361 ECOSOC, Economic Commission for Europe, Inland Transport Committee, 50th Sess., 30 January - 3 February 1989, **Results of the Work of the AD HOC Meetings on the Development of an International Regime of Civil Liability for Damage Caused During the Inland Transport of Dangerous Goods**, ECE Doc. TRANS/R.284, 30 November 1988.

362 Economic Commission for Europe, Inland Transport Committee, 50th Sess., 30 January - 3 February 1989, **Draft Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD)**, ECE Doc. TRANS/R.283, 9 November 1988.

- to dangerous goods not exceeding the quantities of marginal 10 011 of ADR.

The carrier or his insurer should have the option of constituting a limitation fund, and, in that case, no right of compensation might be exercised against other property belonging to him.

UNIDROIT reported that many States considered that where the liability is placed on the carrier, the latter should have few defences.[363] Article 5 (4) (c) would relieve the carrier if he proves that the consignor or any other person failed to meet their obligation to inform him of the dangerous nature of the goods, and that neither he, his servants or agents knew or ought to have known of the nature of the goods.

The International Road Transport Union (IRU) pointed out that this puts the burden of proof on the carrier, while the Article 22.1 of the CMR puts the burden of proof on the sender or the consignee.[364] The UNIDROIT Report said that a majority of governmental representatives "warned against

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[363] UNIDROIT International Institute for the Unification of Private Law, **Explanatory Report on the Draft Articles for a Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail, and Inland Navigation Vessels** UNIDROIT 1986 Study LV - Doc. 80, Rome, November 1986, at 12 para. 25.

[364] ECE, ITC, 50th Sess., **Comments on the Draft Convention for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD)**, ECE Doc. TRANS/R.286, 20 December 1988, at 4 and 5.

confusing the contractual rights and obligations of the parties to a contract of carriage and the extra-contractual liability contemplated by the prospective Convention."[365]

The United Kingdom proposed that a carrier be exonerated if he had complied with all safety requirements and has taken all necessary steps, in particular having regard to the state of scientific and technical knowledge.[366]

The draft convention is submitted for consideration and adoption in a special session of the Commission to be held in the second part of 1989; explanations of the draft convention were sent to member States of ECE for comments and proposals.[367]

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[365] UNIDROIT 1986 Study LV - Doc. 80, Rome, November 1986, at 41 para. 90.

[366] Economic Commission for Europe, Inland Transport Committee, 50th Sess., 30 January - 3 February 1989, **Draft Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD)**, ECE Doc. TRANS/R.283, 9 November 1988.

[367] Economic Commission for Europe, Inland Transport Committee, **Report of the Committee on its Fiftieth Session (30 January - 3 February 1989)**, ECE Doc. TRANS/74, 22 February 1989.

2. Draft Convention on Liability and Compensation in Connection with the Carriage of Hazardous and Noxious by Sea (HNS)

Since 1969, the Legal Committee of IMCO (now IMO) has proclaimed its intention to propose legislation on the maritime carriage of hazardous and noxious substances by sea (HNS).

A Diplomatic Conference was held from 30 April to 25 May 1984 to adopt a draft convention[368] on the subject. But the draft "was not mature for adoption" and the Conference could not adopt the text in the time available. The draft convention covered only damage resulting from hazardous substances carried in bulk and provided for a dual system of liability, the shipowner being liable up to a specific limit, and the shipper assuming liability exceeding that

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368 IMO, International Conference on Liability and Compensation for Damage in Connexion with the Carriage of Certain Substances by Sea, **Draft Convention on Liability and Compensation in Connexion with the Carriage of Noxious and Hazardous Substances by Sea**, IMO Doc. LEG/Conf.6/3, 13 January 1984; reproduced in (1984) 23 International Legal Materials 150.

limit.[369] There was lack of information on the insurance implications of this system.[370]

The discussions now center on four alternative approaches for providing a HNS compensation system. The first approach would create exclusive liability for the shipowner with a general increase of the limitation amounts in the 1976 Convention on Limitation of Liability for Maritime Claims (LLMC), which some States do not consider to be high enough. Under the second, exclusive shipowner liability with a supplementary layer under 1976 Convention (LLMC) for HNS cases. Under the third, a shipowner's liability would be limited under the LLMC, but supplemented by compulsory shipper insurance. Fourthly, a shipowner's liability under the LLMC would be supplemented by a fund financed by cargo interests.[371] The two last options imply a shipper's liability and shippers do not want to be liable for shipowners' acts over which they have no control. At the end of 1988, the P & I Clubs and the International Union

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[369] Legal Committee, 59th Sess., **Consideration of the Question of Liability for Damage Caused by the Maritime Carriage of Hazardous and Noxious Substances**, IMO Doc. LEG 59/5, 1 February 1988, Annex at 1 para. 4.

[370] Bede, "Curtain Call for Draft HNS" Hazardous Cargo Bulletin (October 1988) 9.

[371] Legal Committee, 60th Sess., **Consideration of a Possible Convention on Liability and Compensation for Damage Caused by the Carriage of Hazardous and Noxious Substances by Sea**, IMO Doc. LEG 60/3, 30 June 1988, at 1 and 2.

of Marine Insurance told the Legal Committee that it was "impossible and even irresponsible to try to predict the availability, total capacity and cost of insurance"[372] regarding the maritime carriage of HNS.

Other issues include the geographic scope of the convention, the limitation to be established, and what account should be taken of the interactive potentials of HNS cargo.

In addition to the draft Convention, a paper, WP22, suggested the shipowner be obligedn to ensure that a certificate of insurance was in force for each HNS cargo lifted by a ship.[373] This would create a new duty for the shipper, as well as additional practical implications associated with the handling of packaged HNS cargoes, particularly when containers are used for their carriage.[374]

The Convention is still under consideration; no

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[372] Bede, "HNS - Grinding to a Halt?" Hazardous Cargo Bulletin (December 1988) 15.

[373] International Conference on Liability and Compensation for Damage in Connexion with the Carriage of Certain Substances by Sea, Committee of the Whole I, **Consideration of a Draft Convention for on Liability and Compensation in Connexion with the Carriage of Noxious and Hazardous Substances by Sea**, IMO Doc. LEG/Conf.6/C.1/WP.22, 14 May 1984.

[374] Legal Committee, 60th Sess., **Consideration of a Possible Convention on Liability and Compensation for Damage Caused by the Carriage of Hazardous and Noxious Substances by Sea**, IMO Doc. LEG 60/3, 30 June 1988, Annex 2.

compromise has been reached among the different parties.[375]

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[375] The 61st Session of the IMO Legal Committee is held at the end of September 1989.

CONCLUSION

Aircraft have contributed to the establishment of the global village which long ago, entered in the days "of synthetic living, when to an ever-increasing extent our population is dependant upon mass producers for its food and drink, its cures and complexions, its apparel and gadgets."[1]

In this world where everybody benefits from dangerous goods, these goods must be carried from one place to another and sometimes, air carriage is the most efficient way of transport. Both the carrier and the ordinary man profit from this. The necessity for international standards and international conventions speaks for itself.

There are nonetheless divergent forces which impede harmonization.

The biggest economic power of the world, the United States, has enacted extensive regulations on dangerous goods, and is reluctant to adopt the international standards entirely, because firstly American industry might suffer prejudice should the American standards be more stringent than the international ones, and secondly, the

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[1] **Dalehite v. United States** 346 U.S. 15 at 51 (1952).

stringent than the international ones, and secondly, the industry would have a lesser say in the process of creation of these international regulations.

The other problem is the existence of two manuals originally intended for use in the field, the ICAO Technical Instructions and the IATA Dangerous Goods Regulations. At the beginning of the seventies, IATA asked ICAO for help in the implementation of its Regulations. ICAO considered that leaving the matter to IATA would have many disadvantages[2] and decided to establish ICAO standards with an ICAO field document. IATA has not been willing to give up its control over its manual, in order to have the ability to add provisions not considered acceptable to ICAO. This led the Secretary General of ICAO to sign a commercial agreement with IATA, giving the Association the exclusive right to produce a field document incorporating the ICAO standards, and to refer to the IATA field document in the next edition of the ICAO Technical Instructions.[3] This agreement will create problems for States not ready to legally recognize a carrier-oriented document over which they have no control. As far as implementation is concerned, IATA has an important role, as it is more active on the field.

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[2] Supra, at 80 et seq.

[3] Supra, at 146 et seq.

Moreover, the lack of technology and financial resources force many States to focus on the worthiness of their airports and other facilities, before implementing the Technical Instructions.

Some experts wonder if there is not overregulation.[4] After more than 30 years of work by the U.N. Committee of Experts on the Transport of Dangerous Goods and of other bodies, some organizations want to reinvente the wheel by drafting new regulations on the transportation of hazardous wastes.[5]

Most importantly, there is no effective international convention to protect the victims of this transport of dangerous goods. While international bodies dealing with other means of transportation are currently developing conventions for the transport of dangerous goods, air law

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[4] "However, now that the Technical Instructions are well established, possibly the time is ripe to step back and view from a little distance what has been created. We have a very good code of regulations which, if followed, will ensure that dangerous goods travel safely. But there is a continuing history of dangerous goods incidents and near-accidents, although **none** caused by defects in the regulations. These problems arise because the regulations are not followed and perhaps more time should be spent examining why this should be, rather than striving to move the regulations nearer to perfection? Are we now over-regulating? Do shippers not comply because it too difficult or because they consider the rules to be unnecessarily stringent? Perhaps the best interests of safety would be served by easing some of the present restrictions." J. Cox. "What Now for the TIs?" Hazardous Cargo Bulletin (February 1987) 12.

[5] **Supra, at 492 et seq.**

subject to certain limits. Nonetheless, these limits are the subject of much controversy nowadays, the Rome Convention and its amending Montreal Protocol have been ratified by a minority of countries. If a carrier can prove that he took all the necessary measures under the Warsaw Convention, passengers, consignors and consignees will have to sue the shipper, who might be on the other side of the globe.

"Today liability is all a question of who is to take out the insurance."[6] Of course, morally, the shipper should be liable. In practice, this leads to many problems. Every shipper of a dangerous good will have to take out insurance for each consignment, which may lead to the licensing of shippers of dangerous goods. The shipment of dangerous goods is so common and widespread that this system of licensing would be too costly to install and control. In an accident, it would be hard to determine which dangerous material was the initial cause of the damage and who shipped it.

While the carrier is in better position to take out insurance than either bystander, passengers, co-consignors, or consignees, the world community is unfortunately unable to decide on a monetary amount for liability or insurance.

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[6] B. Cheng, "Fifty Years of the Warsaw Convention: Where Do We Go from here?" (1979) Zeitschrift für Luft- und Weltraumrecht 373 at 378.

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