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"ATC LIABILITY AND THE PERSPECTIVES OF THE GLOBAL GNSS"
(is an International Convention viable?)

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ABSTRACT

Since the 1930's several International Organizations and the State of Argentina have attempted to draft an International Convention on Air Traffic Control Liability. All such attempts, however, failed.

Although justified reasons favoured an International Agreement on the subject-matter, it seems that the reasons for the failures of these different Drafts are very understandable. Among them is that if States do ratify an Air Traffic Control Liability Convention, it will automatically infringe a part of their sovereignty.

Despite the fact that a subject as important as this one requires careful study, it cannot be said that it has not been properly addressed, and it is evident that final conclusions can now be reached. An international solution should be abandoned. Two possibilities remain, as a compromise for the unification of laws in that matter, that is either a regional agreement among the different regions of the World or a Model Agreement which States would implement in their national laws. Conflict of laws and reliance upon a specified regulation of the subject-matter may be an even better solution.

Within the new approach of Air Traffic Control by Communications, Navigation and Surveillance/Air Traffic Management, (CNS/ATM), a specific law on the subject- matter combining Air Traffic Control liability and CNS/ATM liability is proposed.

RESUMÉ

Depuis les années 30, de nombreuses organisations internationales, comme l'État Argentin ont tenté, en vain, de rédiger une convention internationale sur la responsabilité du contrôle aérien.

Malgré la nécessité reconnue par tous, de l'élaboration d'un accord international, les raisons de ces échecs nous paraissent compréhensibles. La justification principale étant que les États ont peu intérêt à ratifier un accord de responsabilité du contrôle aérien, puisque ce dernier limiterait de facto leur propre souveraineté.

Ce sujet important a été traité de nombreuses fois et il importe maintenant de tirer les conclusions finales. Aussi, considérerons-nous les deux projets: un accord régional entre les diverses régions du monde ou un accord-type que les États vont incorporer au sein de leur législation. Des conflits de lois et la garantie d'une législation spécifique en la matière peuvent même être envisagés comme une meilleure solution.

Dans le cadre d'une nouvelle approche du contrôle aérien par le système de communications, de navigation et de surveillance et de gestion de ce contrôle (CNS/ATM), nous proposons une loi spécifique à ce sujet associant la responsabilité du contrôle aérien et la responsabilité du CNS/ATM.

ABBREVIATIONS

AAC	-	Aeronautical administrative communication
AAS	-	Advanced automated system
ACAS	-	Airborne collision avoidance system
ADS	-	Automatic dependent surveillance
AMSS	-	Aeronautical mobile satellite service
APC	-	Aeronautical public correspondence
AOC	-	Aeronautical operation control
ARINC	-	Aeronautical radio, Inc.
ATC	-	Air traffic control
ATM	-	Air traffic management
ATS	-	Air traffic services
CNS	-	Communications, navigation and surveillance
ECAC	-	European Civil Aviation Conference
EUROCONTROL	-	European Organization for the Safety of Air Navigation
EATCHIP	-	European Air Traffic Control Harmonization and Integration Programme
FAA	-	Federal Aviation Administration
FANS	-	Special Committee on Future Air Navigation Systems
FANS (PhaseII)	-	Special Committee for the Monitoring and Coordination of Development and Transition Planning for the Future Air navigation System
FIR	-	Flight information region
GLONASS	-	Global orbiting navigation satellite system
GNE	-	Gross navigational error
GNSS	-	Global navigation satellite system
GPS	-	Global positioning system
IATA	-	International Air Transport Association
ICAO	-	International Civil Aviation Organization
IFATCA	-	International Federation of Air Traffic Controller's Association
IFR	-	Instrument flight rules
INMARSAT	-	International Maritime Satellite Organization
NERC	-	New en route centre

PANS-RAC	-	Procedures for Air Navigation Services-Rules of the air and air traffic services
SUPPS	-	Supplementary Procedures
TCAS	-	Traffic alert and avoidance system

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PART I - INTRODUCTION

During the past decade, the world of aviation has experienced a growth in air traffic, which has severely diminished the capacity of the air traffic control infrastructure and enhanced the required levels of safety. The maintenance of safety resulted in increasing congestion and delays[1]. Hence, as the congestion of air traffic has gained great importance, the legal liability arising from damages caused by the air traffic controller is simultaneously multiplying. Traditionally, what had been the duty and responsibility of the pilot, has become concurrent functions of both the pilot and the air traffic controller who both share responsibility. Today, it has become the basis of the air traffic controller determination of liability[2].

There is no doubt that air traffic control services is international in nature when an aircraft is in a Flight Information Region over the high seas or territory of undetermined sovereignty, or in delegated airspace, i.e. when

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1 EATCHIP "European Air Traffic Control Harmonization and Integration Programme, EATCHIP, increasing Europe's Air Traffic Control capacity". (April 1994), Olsen International at EUROCONTROL Headquarters, p. 4.

2 Kader, M.A., "Air Traffic Control Liability" (August 1986). Institute of Air and Space Law. Thesis. McGill University, p. 1.

an airspace of one State is delegated to another State for purposes of providing Air Traffic Control services[3]. Nevertheless, it remains that only a few international provisions are of direct relevance to air traffic services. Rules on Air Traffic and Air Traffic Control were introduced in Articles 11, 12, 15, 28, 69 and 70 of the Chicago Convention, and subsequently in Annexes 2, 11 and 14 (pursuant to articles 37 and 38 of the Convention). Other documents Doc/4444 dealing with Procedures for Air Navigation Services and Rules of the Air and Air Traffic Services (PANS-RAC) mention the technical aspects of Air Traffic Control. There are also Regional Supplementary Procedures (SUPPS) applied within the nine regions of the World as delimited by ICAO[4].

Currently, Air Traffic Control liability is governed by national law. Attempts to have an international regulation on the subject-matter have always failed for several reasons[5]. History and experience have proven the incidence leading to international liability is extremely rare. The

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[3] Ibid, p. 7.

[4] Desbiens, Caroline, "Government's Liability for the Control of Air Traffic as well as the inspection and certification of aircraft" (November 1992). Institute of Air and Space Law. Thesis. McGill University, p. 8.

[5] Marn, Peter, "Comparative Liability of Air Traffic Control Services" (1980), Institute of Air and Space Law, Thesis, McGill University, p. 5.

most relevant case on this issue belongs to the year 1958[6]. Systems of liabilities in different countries of the World are very divergent, some States base their liability on fault, others on strict liability, depending on their internal economic and political state. The proof of fault is complex and difficult to establish for the non-professional user, namely the passenger. The jurisdiction is troublesome because in several countries it is military and civil at the same time. Finally, the limit of liability depending on the resources of different countries may be either too high or too low.

During the past few years, aviation technology has progressed considerably. Air Traffic Control services have adapted themselves to these developments by using computers, radars and new or advanced navigational and communication satellites. Satellite technology has been identified as the basis of the air navigation system of the future.

The realization that a new and different approach for Air Traffic Control was required became apparent to member States of ICAO when they agreed to form, in the early 1980's, a Special Committee to consider the Future Air Navigation System (FANS). FANS has become the communications, navigation and surveillance/air traffic management system, (CNS/ATM).

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[6] Eastern Airlines Inc. v Union Trust Co. 221F2d 62 (DC 1955).

At present, the challenge of ICAO is to monitor the nature and direction of research and development programmes, trials and demonstrations in CNS and ATM so as to ensure their coordinated integration and harmonization[7]. The ICAO Committee has noted the increasing diversity and complexity of national Air Traffic Control implementations being undertaken by States. In addition, the multiplicity of instutional systems which exist regionally further complicate the task of operating international ATM to agreed standards[8].

The introduction of a seamless CNS/ATM system globally calls for a degree of international standardization of safety requirements. Hence, a solution is needed in the form of an international agreement to consolidate the operational performance of CNS/ATM systems, or at least a compromise conducive towards this aim[9].

Therefore, we will describe the different international efforts to draft an International Convention on Air Traffic Control liability and we will attempt to see why they were never implemented (Part II), then we will see whether or not there is a possibility in the near future to draft an International Convention in the field of CNS/ATM liability,

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[7] ICAO = Special Committee on Future Air Nagivation Systems (Phase II) Fourth Meeting, Montreal, 15 September - 1 October 1993. Report Folder, at Executive Summary, p. 6-7.

[8]. Ibid, P. 4-5.

[9] Ibid, p. 7.

the problems that States may encounter to carry out this goal, and the best way to achieve a global CNS/ATM liability system (Part III). Finally, a specified law on the subject-matter combining Air Traffic Control liability and CNS/ATM liability will be proposed (Part IV).

PART II - INTERNATIONAL EFFORTS TO DRAFT A CONVENTION ON AIR TRAFFIC CONTROL LIABILITY BY GROUND HAVE BEEN SUBSTANTIAL

International efforts to draft an International Agreement have been extensive. In 1964, ICAO, in 1970, the State of Argentina, and in 1976, the International Federation of Air Traffic Controller's Association drafted international documents[10]. Pursuant to an official indication from the 24th Assembly, the Legal Committee decided that the subject was sufficiently important to be listed in second place on its work programme for 1979 and this view was confirmed by the Assembly, which described the subject as important in the general work programme of the Committee. Hence, in 1980 based on a decision of the Assembly and thereafter - of the Council (101st Session), a questionnaire circulated among States on various aspects of the matter to define their different views. A Panel of Experts met several days in June 1981 to review the general work programme of the Legal Committee and it was decided that the subject was suitable for international codification.

The subject was reviewed at the 25th Session of the Legal Committee on the basis of this questionnaire and the replies received. This subject was listed in second place on

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[10] Supra, note 2, p. 130.

the Agenda after the aeronautical clauses in the United Nations Convention on the Law of the Sea. This action was confirmed by the Legal Commission of the 24th Assembly in October 1983[11].

All of the work on Air Traffic Control liability remains of great interest, however, in my opinion, two of the proposals serve as valuable guidance for States that wish to unify their domestic law in this field, namely, Argentina's Preliminary Draft Convention on Air Traffic Control liability and the endeavours made by ICAO in the 1980's.

We will examine in depth the provisions of these Conventions on their scope of applicability, their system of liability and their limitation of liability. We will exclude from our study the regional efforts to draft a Convention on Air Traffic Control liability, because regional efforts are relevant as far as their form is concerned, but not as far as their content is concerned since they are very similar to the International drafts.

All these Conventions and proposals have remained projects and did not come into force. We will examine the reasons why this is so, and study possible remedies to the situation.

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[11] Legal Committee - 29th Session - LC/29-WP/7-3, 15/3/94, p. 2+.

A. Reasons for an International Convention

In 1964, the ICAO Legal Subcommittee, was in favour of an International solution over disparate national systems, to regulate Air Traffic Control liability. In its first report, the Subcommittee concluded that it would be beneficial to have International rules on Air Traffic Control liability and that the usefulness of a liability regime is anticipated to increase in the future[12]. Several arguments were put forward to make the rules of liability in private international air law as uniform as possible.

The first argument in favour of a Convention, from a claimant's point of view is that, depending on where a plane crash occurs, the recovery of the damages is uncertain, due to the various national legislations. At present, in the field of aviation, conflicts of law rely on the law of the place of the accident resulting in damages. This law will determine whether the claimant will be given compensation. It will also regulate the extent of any compensation, if it may be delayed and whether the claimant may even lose his right of action. Moreover, the place of the accident is vital because the liability depending on the national state may be tortious or contractual. If it is tortious, the law

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[12] Larsen, Paul B., "Regulation of Air Traffic Control Liability by International Convention" (1965). Institute of Air and Space Law. Thesis. McGill University, p. 35+.

of the place of the damage applies, if it is contractual, the law of the place where the contract was signed applies and the implications for the claimant are of a different nature[13].

The second argument again from a claimant's perspective, is that traditional sovereign immunity protects governments at all levels from legal actions including actions based on tort principles. Under this doctrine, a sovereign government cannot be sued by one of its subjects unless it consents to the suit. Practically speaking, international cases involving foreign parties are rare, however, given the importance of international air traffic and the continual dependance on Air Traffic Control services, in the future it is foreseeable that a good percentage of those cases will be pressed by foreign parties. The matter is illustrated in the 1958 decision of the U.S. Court of Appeal **Eastern Airlines inc. v Union Trust Co.**[14], which involved an American carrier and a Bolivian military aircraft. The U.S. Government was held liable for the negligence of its Air Traffic Control agency for damages of one million dollars, but damages were not awarded. Very recently, on May 27th 1994, a Northwest aircraft 747-200 nearly collided with a Cathay Pacific 747-

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[13] Dahl, "ATC liability in Norway and from a Unification viewpoint" (1973), Institute of Air and Space Law, Thesis, McGill University, p. 71+.

[14] Supra, note 5.

400 over the Pacific Ocean, after an air traffic controller had put the two aircrafts on a collision course, according to the Japanese authorities. Thanks to the traffic alert and avoidance system (TCAS), they did not collide[15]. This near collision demonstrates the real possibility of accidents caused by Air Traffic Control negligence and begs the question if it had occurred what liability scheme would apply. In my opinion, if governments, through an International Convention were to waive their Air Traffic Control immunity it would be beneficial for claimants, and especially would favour foreign claimants.

While the liability of the carrier is regulated by several international conventions, the Air Traffic Control liability remains governed by national laws. Given the development of Air Traffic and the demands on Air Traffic Control the adoption of a uniform liability system under an International Convention is encouraged in order to ensure safety and service standards[16]. Moreover, it is not certain that the claimant will just sue carriers and operators given the monetary limitations in the different private air law conventions. It may be a better prospect to sue the Air Traffic Controller or the Government who are not protected by a limited liability regime.

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[15] Case of May 27th 1994, SITA Press Release, May 1994.

[16] Supra, note 7.

The Legal Subcommittee of ICAO confirmed that to have an International Convention on Air Traffic Control, there should be a consensus among States. In other words, a would have no value if only some States would be party to it, even if the most prominent nations of the World were party to such a Convention[17].

B. The History of the Different Drafts Submitted

As early as 1930, CITEJA[18] followed by the ICAO Legal Subcommittee, other Air Traffic Control associations and States have argued for an International Convention on the subject. In 1964, the question of liability of Air Traffic Control agencies first came before the Legal Committee of ICAO in connection with the first draft it had prepared on Aerial Collisions ten years earlier. No State had considered this matter since that date. However, the ICAO Legal Committee, responsible for the preparation of air law conventions, demonstrated efforts to study the liability of Air Traffic Control agencies[19].

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[17] Supra, note 12, p. 37.

[18] Comité International Technique d'Experts Juridiques Aériens.

[19] Supra, note 13, p. 2+.

Air Traffic Control liability appeared very complex, because in most countries Air Traffic Control was provided by government bodies, and depending on the economic status of the State, liability ranged from high liability limits to complete immunity from liability[20]. In September 1962, during the fourteenth Session of ICAO General Assembly meeting, liability of Air Traffic Control agencies was given priority because of its importance as item 4 in Part A of the General Work Programme. A Legal Subcommittee was created to study the subject. A first questionnaire was sent in 1963 to Contracting States and twenty-seven answers were received favouring on different grounds an International Convention[21]. A second questionnaire was sent in 1964 to decide whether or not a draft Convention on Air Traffic Control liability should be achieved or at least a precise framing of the points which should be studied by the Legal Committee. The possibilities which might arise in connection to other air law conventions such as Warsaw, Rome and the draft Convention on Aerial Collisions was also examined. Out of forty answers, it seems that a substantial majority of States favoured International Rules for the settlement of damages caused by Air Traffic Control activities and were in favour of a fault liability with limits[22].

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[20] Supra, note 13, p. 3.

[21] Supra, note 11, p. 2+.

[22] Supra, note 2, p. 137+.

In the 1970's, other priorities such as hijacking of aircraft and crimes against civil aviation foreclosed the Legal Subcommittee from convening until 1979 when it decided to once again give the subject attention. The 24th Session related Air Traffic Control liability to the Legal Status of the Aircraft Commander and Aerial Collisions. A questionnaire was prepared and the answers to it were studied by the Panel of Experts on the General Work Programme of the Legal Committee (8 to 16 June 1981). According to the Panel the majority of States did not have any problem with the Air Traffic Control issue and asked that the issue be studied further.

The questions were raised again at the 25th Session of the Legal Committee in 1983 and regrettably States remained in the same position.

However, delegates unanimously agreed that research on the matter should be continued and performed by the Secretariat or by Rapporteurs in order to determine the need and possibility of sufficient consensus among States for an International Convention or Guidance material for the creation of Model Laws. Hence, a Rapporteur was nominated to examine with the ICAO Legal Bureau the analysis made by the Panel of Experts on the General Work Programme of the Legal Committee in connection with all the previous answers to the different questionnaires, the studies made by the Secretariat

as well as the comments from different international organizations. The Rapporteur was supposed to present a report to the 26th Session of the Legal Committee convened in April 1986, but the session was not held. Whether this was for procedural reasons or rather that the ICAO Legal Committee wanted to suspend dealing with the subject, remains a matter of speculation[23].

Concurrently, the State of Argentina being strongly in favour of International regulation on Air Traffic Control liability drafted a Convention in the early 1970's. It was submitted to the VIth National Conference on Air and Space Law in Buenos Aires and to the 25th Session of ICAO's Legal Committee in April, 1983. In 1976, the International Federation of Air Traffic Controllers Association, IFATCA, drafted a Convention on the subject. It was presented by the Chairman of EUROCONTROL, the European Organization for the Safety of Air Navigation, Subcommittee to the VIIth Standing Committee of the 15th Annual Conference of IFATCA in 1976. This draft was amended in 1977[24].

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[23] Supra, note 11, p. 2.

[24] Supra, note 2, p. 147+.

C. Comments and Positions of States Before 1964

The following describes some of the major reasons for the slow progress in the development of international regulation and the lack of consensus among States on the subject.

Incidently, it is interesting to note that the preparation of the Draft Convention on Aerial Collisions (1964) by ICAO, was never taken into account before that date by the International Community. Air Traffic Control liability and Aerial Collisions were always governed by national legislation and States wanted to keep these matters within their own jurisdiction[25].

To draft a Convention on Aerial Collisions, the ICAO sent two questionnaires in 1963 and 1964. The former received twenty-seven replies, the latter, forty. Those figures constituted less than one-third of the membership of ICAO (101 members in 1963; 109 members in 1964). It is unclear whether this was because States had nc interest in the subject-matter or rather because it was too complex an issue involving the sovereignty of too many States. Moreover, replies from States with the greatest aeronautical

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[25] Sasseville, Hélène, "Liability of Air Traffic Control Agencies". (1985) Institute of Air and Space Law. Thesis. McGill University, p. 1+.

development were included. Although those States may have had an important impact on other States, it would have been difficult to predict what the majority decision would have been among the Contracting States of ICAO. Hence the matter was examined further[26].

On the first questionnaire, States seemed to allow plaintiffs to litigate the negligent air traffic controller if they opted to do so; only Japan assumed exclusive liability for its servants. In some cases, States could ask its employees to reimburse the amount paid, or may have had a recourse action against them. At this stage, only a very small group of States were in favour of an International Agreement on the subject.

On the second questionnaire, the majority of answers were for the establishment of international rules for the settlement of damages caused by Air Traffic Control activities. Most of the States preferred a system of liability based on fault, with limits, however it was agreed that to try to be too specific at that stage was premature[27].

It is a fact that in 1964 there was no unanimity as to whether there should be an international instrument on the subject and whether the instrument should be a Convention on Air Traffic Control liability, Amendments to certain existing

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[26] Supra, note 2, p. 147+.

[27] Supra, note 11, p. 2+.

private air law conventions, a convention combining Air Traffic Control liability and liability in case of Aerial Collisions. Hence, the two questionnaires were useless as far as their aim was concerned, nevertheless, they gave a general idea of future developments on the subject-matter[28].

D. The Convention on Aerial Collisions (1964)

Having analyzed the replies of the States for and against the preparation of an International Convention, the Subcommittee considered the following main topics within a possible Convention on Aerial Collisions.

(1) the scope of the Convention would be a broad one;

(2) the Convention would apply whatever the posture of the aircraft, whether in flight, on the surface, in movement or not, provided that it was under the control of an Air Traffic Control service;

(3) the Convention should have a system of liability based on fault;

(4) it should provide a limitation of liability with a reasonable high amount[29];

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[28] Supra, note 2, p. 132+.

[29] Supra, note 25, p. 1, p. 118, p. 123, p. 125.

By 1979, besides the Air Traffic Control liability and Aerial Collisions, the legal status of the Aircraft Commander was reviewed. The following order was adopted 1) Legal Status of the Aircraft Commander, 2) Liability of Air Traffic Control agencies 3) Aerial Collisions. By 1980, another questionnaire concluded that the following three points needed further study:

(1) the delimitation of the jurisdiction of the Air Traffic Control agencies in relation to the authority of the Aircraft Commander;

(2) the delimitation of problems falling under private law and public law;

(3) the problem of liability in the event of failure of computerized Air Traffic Control equipment[30].

The minority of States were in favour of an International Convention to regulate the liability of Air Traffic Control agencies in order to avoid disparities among legal systems and facilitate the uniformity of air law on this particular subject. The majority of States were against international regulation of Air Traffic Control liability since the practical expression at the national level was satisfactory and had not demonstrated the existence of problems of sufficient magnitude to justify an International solution. Those States believed that Air Traffic Control

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[30] Ibid, p. 126.

should be regulated by domestic laws[31]. Other uncertain States said that further study on a possible International Agreement on Air Traffic Control liability should be continued.

The nature of the dissension of States on the issue of whether or not there should be an International Agreement on Air Traffic Control, was of a political difference among States. Capitalist States were in favour of high limits and a strict liability system. Socialist States and Third World Countries were in favour of low limits and a fault liability system. Therefore, this issue remained unresolved because of permanent disparities among States[32].

Other attempts, for an international regulation on the subject have been studied by the IFATCA: an International non-governmental association[33].

E. IFATCA's Draft Convention (1976)

In 1976, the IFATCA agreed upon an International Convention to regulate Air Traffic Control liability. This Draft Convention was amended in 1977.

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[31] Supra, note 2, p. 141-147.

[32] Supra, note 2, p. 165.

[33] IFATCA = International Federation of Air Traffic Controller's Association.

As in the case of the Draft Convention on Aerial Collisions, the scope of the Convention is very extensive. Article 1 applies not only to air traffic controllers, but also to analogue technical grades including all telecommunications grades of Fixed or Mobile Aeronautical Services, all grades employed in Meteorology and all grades employed in the provision of ground-to-ground services as well as all grades employed in operational planning, including all trainee personnel in such grades[34].

Similarly to the previous Convention studied IFATCA's Draft Convention would apply whatever the posture of the aircraft, whether in flight, on the surface, in movement or not when such aircraft or vehicles are authorized to proceed by Air Traffic Control and are either in radio contact or are subject to Air Traffic Control signals. In other words, it gives a broad definition of personnel and events to be covered[35].

The Draft Convention is based on a fault system. However, it goes even further for an air traffic controller to be held responsible in a civil action; since it requires that fault be proven beyond all reasonable doubts. This degree of proof is normally reserved to criminal offenses[36].

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[34] IFATCA's Draft Convention, article 1.

[35] Ibid, article 3, p. 3.

[36] Ibid, article 9.

This is perhaps going too far because the proof of fault system works in favour of Air Traffic Control agencies as a possible defendant rather than for the claimant which favours the former as opposed to the latter.

There are several provisions in the Draft Convention aimed at regulating the limitation of liability of Aviation Authorities, of Aviation Technical Personnel and of Aviation Authority and Aviation Technical Personnel as joint tort feasors. The indemnity for the wrongful acts or omissions of Aviation Authorities are limited to the amount of the Warsaw Convention as amended by the Hague, Guatemala and subsequent protocols. Those subsequent protocols in order to be applicable must have come into force not later than the day before the aircraft accident[37].

The responsibility of the Aviation Technical Personnel as an individual is regulated by Article 14 of the Convention which limits the compensation to be paid by the Air Traffic Control employee's personal liability in a direct action to one year of salary after all taxes due have been paid, to be shared with other parties which contributed to the occurrence of the accident.

Finally, there is no recourse action from the employer against the employee when the employer has paid compensation. There is an exception to this principle, if it is proven that

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[37] Ibid, article 12.

the employee acted "ultra vires" and the limitations of the Draft Convention would apply also to such proceedings, which are the limitations, as described, under Article 14 of this Convention[38].

Finally, this Convention has to be agreed to in its entirety. Article 20 specifies that no reservation shall be admitted to this Convention. Of course, the system was to be as unified as possible in 1976, however, in my opinion, more flexibility would perhaps have allowed this Draft Convention to come into force.

F. Argentina's Draft Convention (1970)

In 1970, Argentina prepared a Draft Convention on Air Traffic Control which was submitted to the VIth National Argentina Conference on Air and Space Law in Buenos Aires in 1972. Argentina's Draft Convention advocates as the other drafts, a broad scope of definition of the air traffic services. It applies regardless of the posture of the aircraft[39].

As compared to previous Conventions, it is much more specific on the international elements, circumstances and the types of damages which would make the Convention applicable.

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[38] Ibid, article 16.

[39] Supra, note 2, p. 149.

It shall, however, in no case apply to damages caused by delay in the transport, or to damages caused by abnormal noise or sonic boom, or to damages caused by the transmission of messages which have produced interference with other electronic or telegraphic facilities or any other facilities on the surface[40].

Similarly to the other drafts, it is a fault liability system, with the exception of the event of failure of electronic equipment and/or automatic communications machinery, there shall be a presumption of fault against the Air Traffic Control agencies which will be obliged to show that its officers, employees and agents took all regulatory and possible steps to avoid the failure. There is also a fault presumption through failure to present documents. The burden to prove fault on the part of the Air Traffic Control agency to produce evidence of the failure lies with the claimant[41].

The liability for damage to persons and objects is governed by the Warsaw System. Hence, in the case of damage suffered by a person or damage caused to an object, the limitation of the Warsaw Convention would be applicable[42].

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[40] Argentina's Draft Convention, article 4.

[41] Ibid, article 8.

[42] Ibid, article 10.

The liability for damage that might occur to a third party on the surface refers to the Rome Convention on the liability of the operator regarding persons and objects on the surface. In case of liability of Air Traffic Control agency in respect to third parties on the surface, it is modeled on the Rome Convention limits[43].

The liability for damage resulting from collision is modeled in accordance with the provisions of the Aerial Collisions Convention[44].

Article 14 of the Argentina's Draft Convention establishes the limitation of liability of the Air Traffic Control agency and refers to the Articles 10, 11 and 12 as previously described.

As in the case of the Warsaw Convention at Article 22, States may increase the limit of liability of their Air Traffic Control agencies. Although Mr. Kader, a graduate student from the Institute of Air and Space Law, believes this is against the purpose of the Convention for the unification of rules and liability and suggests the deletion of this Article from the Convention, in my opinion, a flexible Convention invites more States to ratification and this provision should be kept within Argentina's Draft Convention[45].

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[43] Ibid, article 11.

[44] Ibid, article 12.

[45] Supra, note 2, p. 161.

Similarly to the other Drafts Conventions, under Article 42 of Argentina's Drafts Convention, no reservation may be made with respect to this Convention. The comments previously made with respect to the issue of reservation in the case of the IFATCA's Draft Convention apply to Argentina's Draft Convention.

As compared to the two previous drafts, Argentina's Draft Convention was improved in different respects: it is much more precise, the system of liability which is based on fault is well defined and the limitations of liability refer to the different International Air Law Conventions namely the Warsaw System, the Rome Convention and the Aerial Collision Convention. In addition, Argentina's Draft Convention seems to be more flexible in its application as compared to the other drafts.

G. The Last Proposal in the 1980's

In the 1980's, Rapporteur Professor H. Perruchi submitted a Report on the subject of the liability of Air Traffic Control agencies. Through this document, reedited as a Working Paper for the 29th Session of the ICAO Legal Committee (Montreal, 4 - 15 July 1994), Professor H. Perruchi took the position that future action should proceed along the following lines:

(1) The subject of liability of Air Traffic Control agencies should be addressed by the next Session of the Legal Committee, to be held in 1986. It has never been, for the possible reason given in section B, Part II;

(2) The drafting of a model text should be decided based upon the text itself drafted at the above session;

(3) Further work on the subject should then be suspended for a suitable period to enable experience in applying the model text to accumulate;

(4) Later on, on the basis of this experience, the question of drafting an International Convention on the subject should be considered once again;

(5) Finally, for illustrative purposes, Professor H. Perruchi, puts forth a preliminary draft model text which we will discuss in Part IV[46].

In his Report, Professor H. Perruchi, exposes all the different issues involved in Air Traffic Control liability. We will just focus at this stage on what he said regarding the scope of applicability, the system and the limits of liability of a possible instrument on the subject-matter.

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[46] Supra, note 11.

For the Rapporteur, there is no doubt that Air Traffic Control liability is international in nature and therefore should be regulated at an international level.

Air Traffic Control agencies even if they are operated by civil or military units or belong to private entities should explicitly contemplate the State or local government authorities. Hence, it will be much easier to legislate, since only public entities will be involved in Air Traffic Control liability. In this event, States should assume responsibility for damages defined within the Instrument without prejudice to the right of recourse if required. Traditional State immunity which operates in most national legislation will be waived with respect to their damages. Moreover, the Convention should establish clearly to which aircraft it applies and preferably all aircraft should be covered since civil and military aircraft use the same airspace.

Although, Professor H. Perruchi is doubtful about a liability regime based on fault or negligence of the operators or air traffic controllers, he acknowledges that the great majority of States took this view for two reasons, namely because the subjective system is best adapted to the act, or combination of acts, that may generate liability, and also the subject of liability is always the State, which discharges its duty to the Air Traffic Control services

through controllers, who have obtained their licenses and prior training for this purpose, which is the guarantee of their suitability. At this stage, it is interesting to note that even if the majority of States are for a fault liability system, Professor H. Perruchi is hesitant. Does this means that he is in favour of a strict liability system? He did not pronounce himself. Finally, the Rapporteur shares the view of certain States that the burden of proof should fall upon the victim. According to Professor H. Perruchi there was no convincing reason for reversing this order at the time and it seems that even today Professor H. Perruchi maintains the same view.

Air Traffic Control liability should be limited, but remain so that States may increase the limits beyond those within other Air Law Conventions, and even authorize full compensation for damages sustained. In my opinion, all of Professor's H. Perruchi's proposals are very realistic and reflect the position and the goal of States. However, it seems that States are not completely satisfied since an International Instrument has not yet been drafted and has not yet come into force[47].

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[47] Ibid

H. Comments and Positions of States After 1964

The same arguments of States before 1964 still apply at present. Moreover, it is interesting to note that the debate has moved from an argument of whether or not States were for or against an International Convention to an argument on the different issues of Air Traffic Control liability among States. Does this mean in fact that States wish to abandon the subject given that they argue on irrelevant details, or on the contrary are States simply not in favour of an International Convention on the subject but seek very much a regime for the international regulation of Air Traffic Control liability by other means. An examination of these various arguments will be developed later within the proposal for a model-law agreement on the subject-matter. In the meantime, the following constitutes a brief summary of those arguments:

(1) Whether the subject of liability of Air Traffic Control agencies should be regulated jointly with that of aerial collisions.

(2) Whether it is necessary to safeguard the situation of the air traffic controller as an employee.

(3) Whether a State should be immune from suits in courts dealing with Air Traffic Control liability.

(4) Which concepts should be attached to the expression Air Traffic Control services.

(5) Whether Air Traffic Control liability should be limited to a maximum amount of damages. Whether this limitation should be consistent to the limitations contemplated in other Air Law Conventions.

(6) Whether this Convention should apply to civil and/or military aircraft.

(7) What proceedings should be taken in case of breakdown of the computer equipment used by the Air Traffic Controller.

(8) Whether the relationship between the victim and the Air Traffic Control agency is contractual or extra-contractual and similarly, whether the relationship between the carrier and the Air Traffic Control agency is the former or the latter[48].

I. An Attempt to Amend Argentina's Draft Convention

As for today, it seems that Argentina's Draft Convention on Air Traffic Control liability is a significant and concrete contribution and may serve as a good basis for

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[48] Ibid

further study and elaboration in this field, provided some changes are made.

Although the scope of the Draft Convention is considered as being a broad one, taking into account the following elements: the multinationality of the flight; the nationality of the aircraft; the territory in which the flight is conducted; the nationality of the Air Traffic Control agency providing the service; the nationality of the Contracting State where the damage was caused, it omits that the passenger who is on board the aircraft might be a foreigner. Of course, it may be argued that Article 3 of the Convention implicitly covers the matter, since the flight is an international one and not a domestic one. However, we may have doubts, because this Convention is elaborate and in my opinion it would have referred to the matter explicitly if it did apply to foreign claimants. This represents a major gap in the Convention, since one of the main reasons for having an International Convention on the subject was to ensure that Air Traffic Control immunity could be waived especially against suits brought by foreigners[49].

The liability defined in Argentina's Draft Convention on Air Traffic Control is based on proof of fault on the part of officials, employees or agents of Air Traffic Control agencies, but with presumption of fault, if the damage

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[49] Supra, note 12, p. 35.

resulted from a failure of the electronic equipment and/or automatic communication machinery or when the State, for reasons of national defence or other reasons, fails to present documentary evidence.

The choice of a system of liability must begin with a careful assessment of the goals and interests it is meant to safeguard. A fault system is in favour of the defendant especially when it is associated with limitations of liability. It allows a greater number of defenses[50].

On the other hand, the difficulty of proving fault is very unfair. There are too many technicalities involved in the provision of Air Traffic Control services, of which, an ordinary person will have great difficulty proving the fault of the Air Traffic Control agency, simply because an ordinary person is not a professional and does not know how Air Traffic Control controller's conduct their duties given the technicalities which are involved and the equipment used by Air Traffic Control agencies. According to a fault liability system, the user is not at all protected[51]. From this point of view, the advantages of a fault liability system have become more theoretical than real[52].

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[50] Sasseville, Hélène, "Air Traffic Control Agencies Fault Liability is Strict Liability" X Annals 239 (1985).

[51] Ibid, p. 239.

[52] Ibid, p. 239+.

The strict liability in torts is the newest weapon of product liability law. It is generally regarded as a doctrine rooted in considerations of public policy. Accordingly, strict liability should be imposed on Air Traffic Control agencies, because public interest in human safety demands the maximum protection for users of the service. Imposing liability in this manner would reinforce the responsibility of Air Traffic Control agency to provide safe services. Moreover, the Air Traffic Control agency is technically in the best position to discover and correct unreasonably dangerous defects in the services provided before it can affect users which are powerless to deal with these problems[53]. In achieving this goal, the basic legal vehicle brought about by introducing the doctrine of strict liability, is shifting the emphasis from the Air Traffic Control agency's conduct to the Air Traffic Control service itself, and thus focussing on the interests of the consumer.

Finally, the limitations of liability as drafted in the Convention are presently either too low or not in effect. The limitation of liability for damages to persons and objects refers to the Warsaw Convention. It would be wise to suggest that the limit of liability in this Convention should be

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[53] Khouri, "The Liability of Aircraft Manufacturers: A study of the Present System and A Proposal for a new approach". (September 1990). Institute of Air and Space Law. Thesis. McGill University, p. 145.

raised to the limit specified in the Guatemala City Protocol. Accepting a lower limit than that of the Guatemala City Protocol, is a move backward, although it has not come into force yet[54]. The limitation of liability for damages on the surface refers to the Rome Convention. The Rome Convention of 1952 never came into force because of its low limits of liability. It only received 26 ratifications. Even if the Rome Convention was amended in 1978 to raise the limit of the operator, most Capitalist States did not ratify the Convention and enacted unlimited liability under their national laws[55]. The limitation of liability for damage resulting from collisions is indicated in the Convention on Aerial Collisions. This Convention is today obsolete and its limits are too low for the World's present state of affairs[56]. In all the above cases the Drafts should be amended and the limits should be increased.

States were and still are doubtful on whether an International Convention should regulate Air Traffic Control liability. The International Community, to-date has not reached a consensus on the real need for such an International Agreement.

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[54] Supra, note 40, article 10.

[55] Supra, note 40, article 11.

[56] Supra, note 40, article 12.

J. Reasons for the Failures of the Different Drafts

The nature of the dissension among States, on whether or not there should be an International Agreement on Air Traffic Control liability, was and remains a political issue.

Article 1 of the Chicago Convention stipulates that "every State has complete and exclusive sovereignty over the air space above its territory". If States do ratify an Air Traffic Control Liability Convention, they will automatically infringe a part of their sovereignty. Of course, this statement is a general one, which holds for all States which were to ratify an International Convention whatever its subject-matter. However, in international Air Traffic Control liability, this issue is much more emphasized because Air Traffic Control is in most countries State-owned and operated. States do not wish to lose their control and their immunity over Air Traffic Control liability, therefore, States did not ratify any of these drafts described earlier[57].

Moreover, the doctrine of equality of States, has and will never exist, and the reality is that some States are more equal than others, and some are less equal than others. Hence, Air Traffic Control laws from one country to another

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[57] Starke, "Introduction to International Law", 10th Edition, 1989, Butterworths.

are very disparate. It seems that the only common denominator is the system: whether it is a civil law system, common law system or a socialist system. But even among these systems, there may be different treatment of Air Traffic Control liability situations. In a given country which shares the same legal regime there is no guarantee of uniformity, particularly in federations, confederations or other types of unions where differences can be found, sometimes because the States and Provinces in those countries have enacted different laws, and sometimes they may apply the same law differently[58]. For these reasons, an International Convention on Air Traffic Control liability may not so easily be ratified in the foreseeable future[59].

Air Traffic Control liability through the use of Navigational and Communication satellites (C.N.S/A.T.M) will face the same legal problems and perhaps even other parameters such as the institutional alternatives, the monopoly or competition aspect of CNS services, the financing of air-navigation facilities[60].

Although any subject as important as this requires careful study, it cannot be said that it has not been

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[58] Supra, note 25, p. 133.

[59] Supra, note 2, p. 111.

[60] Kaiser, Stefan, "Legal Implications of satellite Based Communication" (March 1990). Institute of Air and Space Law, Thesis, McGill University, p. 60-64.

properly considered, and it is evident that a final decision can now be reached. In my opinion, too many problems have to be resolved before an International Convention on the matter is achieved and comes into force. Does this mean, the ICAO Legal Committee has to adopt another strategy in this area. In my opinion, it does and especially as we approach the upcoming issue of whether or not Air Traffic Control liability through the use of navigational and communication satellites should be regulated internationally. This issue will be examined in Part III.

PART III - AIR TRAFFIC CONTROL LIABILITY THROUGH THE USE OF NAVIGATIONAL AND COMMUNICATION SATELLITES SHOULD BE REGULATED INTERNATIONALLY

In order to avoid air traffic congestion, to enhance safety, to accommodate the full range of aircraft types and airborne capabilities, to improve the provision of information to users (weather, traffic situation, availability of facilities), to have flexible airspace management, to use efficiently airspace, to increase the use involvement in Air Traffic Management decision-making (through air-ground computer dialogue), and to create to the extent possible, a single continuum of airspace where boundaries are transparent to the users, current Air Traffic Control is no longer sufficient, and the use of a satellite-based system for navigation and communication is required[61].

As far as navigational and/or communication satellites are concerned, the following distinctions should be made:

(1) Air Traffic Services Communication satellites are Communication aeronautical satellites responsible for aviation safety.

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[61] Supra, note 7, p. 1+.

(2) Non-Air Traffic Services Communication satellites are less important than Air Traffic Services Communication aeronautical satellites because they provide only onboard services for passengers and no safety communication services.

(3) Finally, Navigational satellites services are separate from Communication satellites. They may be provided either by the GPS or GLONASS systems. These provide both civilian and military aircraft with accurate navigation services suitable for en route, terminal and non-precision approach and landing[62].

The CNS/ATM is presently technically up-to-date and functional. Juridically, a lot of work remains to be done in this area. A lot of issues remain unanswered and the liability of CNS/ATM is one of them. Hopefully, at the upcoming ICAO Conference on the subject (the 29th Session of the ICAO Legal Committee in Montreal from the 4th to the 15th of July 1994), some important decisions will be taken on the subject-matter. It is hoped that the International Community will join this proposal[63].

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[62] Supra, note 60, p. 215.

[63] Supra, note 11.

One shall remain realistic and acknowledge that the liability issue of Air Traffic Control and CNS/ATM is a long-term programme. Progressively, given the globalization trends of the World, States will understand that a uniform legal system is a better compromise than heterogeous legal systems. Moreover, if an international liability Convention on Air Traffic Control and CNS/ATM were to come into force, one could expect that the amendments to the limitation of liability under the Warsaw System sought by so many States for many years may also come into being[64].

Nevertheless, at present, the fact is that too much work has been undertaken on this issue without any results. It is evident that a final decision should soon be reached. An international solution must be abandoned. Two possibilities remain, as a compromise for the unification of laws on the matter, that is either regional agreements among the different regions of the World or a Model Agreement which States would implement in their national laws. Applicability of private international law and reliance upon a specified regulation of the subject-matter may be an even better solution.

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[64] Supra, note 7.

A. Why the idea of an international solution should be abandoned

Facts have proven that the Drafting of an International Convention on Air Traffic Control liability were long lasting efforts with no results at the end. Sixty years later, the International Community is still at a starting point, arguing desperately on different issues related to the subject-matter. It seems that at the upcoming ICAO Conference (4th-15th of July 1994) on the subject a move must be taken for several reasons, described below[65].

First of all, among a complication in reaching a multilateral accord on the subject was, remains and will remain the fundamental principle of International Law that States have an unfettered sovereignty over their territorial airspace. The sovereignty principle raised the question of how far States were willing to allow limitations on their sovereign competence to control Air Traffic Control liability operations to and from their territory, a competence already conferred by International Law. Neither the sovereignty principle nor its limitation were directly addressed in the debates on multilateralism. Sovereignty, nevertheless, weighed in the minds of delegates, and has a very important impact on the progress and limits of

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[65] Supra, note 11.

discussions. Although the questions/answers to the different questionnaires that were sent to States and the debates on Air Traffic Control liability, brought States to withdraw some of their sovereign control to agreed principles and procedures, the majority of States hesitated to take final steps on the subject-matter. Thereafter this reluctance extended to many other States. In short, the sovereignty principle puts forth a big barrier to the drafting of an International Convention on Air Traffic Control liability[66].

On an economic level, States among the World have unequal opportunities in air transport and unfair opportunity to operate. Hence, there exists divergence of national perspectives on how International Air Traffic Control liability should develop and fundamental differences of approach. A multilateral system based on such principles would need to take into account all the disparities in economic development and strength, technical resources and the complexity of aviation interests of States. A regulatory system based on the interests of a few States could not fulfill the task of a Multilateral Agreement. The World is too heterogeneous today to legislate in matters such Air Traffic Control liability, which is for most of the States of the World a State-owned entity, and a subject where States

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[66] Gunther, "ICAO and the Multilateral Regulation of International Air Transport" (1986), Institute of Air and Space Law Thesis. McGill University, p. 1+.

will not easily allow an International Convention to infringe on their domain[67].

The two aforementioned obstacles attest to the enormity of the task of drafting an International Convention on Air Traffic Control liability and furthermore on CNS/ATM Moreover, one reason which should be emphasized is the inability of States to agree on the basic precondition to multilateralism, namely the extent to which States would be prepared to forego sovereign control in International Air Traffic Control liability. Without an agreement on the final objectives, the meetings were destined to continue around on the issue endlessly and allow points of disagreement to become points of principle[68].

It is hoped that the International Community will have taken a lesson from this long-lasting and futile process of drafting an International Convention on Air Traffic Control liability and will drop the idea of an International Agreement on the matter and work on other possible instruments to fulfill the task.

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[67] Ibid

[68] Ibid.

B. Regional Agreements

At present, three regions of the World are very interested in the implementation of a CNS/ATM system. Those regions include: the United States, Europe and the Pacific Rim. In these blocs certain States have individually shown their interest in the system. In Europe, for example, significant national projects are well advanced, including the United Kingdom's major New En Route Centre (N.E.R.C); Spain's completely new Air Traffic Control system, which has increased the nation's Air Traffic Control capacity and traffic flow rate considerably; Greece's installation of Radar, and Belgium's new computerized Air Traffic Control centre[69].

All these national Air Traffic Control programmes were conceived and started before the European Air Traffic Control Harmonization and Integration Programme, EATCHIP, was achieved. Brussels-based EUROCONTROL is the broker, coordinator and organizer of the European wide Air Traffic Control harmonization and integration programme. EUROCONTROL coordination task is defined by EATCHIP. It's objective is to provide increasing airspace and control capacity urgently in order to handle traffic expeditiously while maintaining a

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[69] Supra, note 1.

high level of safety. The current (second and third) phases of the EATCHIP consists of programme development, acquisition and implementation due for completion in 1995. Automatic data communications between Air Traffic Control agencies is targeted for 1998 at the latest. At present, nothing has been determined with respect to the liability on this new system[70].

From a regional point of view, it may be interesting to consider different regions of the World and argue for a distinct liability system for each of them according to the economic state of each region. However, regional agreements do not provide a complete solution since the uniformity of law will be at a regional level and the problems of the lack of uniformity of laws between regions will pose difficulties similar to those created by the absence of an international Air Traffic Control liability system[71].

Although regional systems may be convenient, because they would broaden the scope of applicability of a unified set of laws on a regional basis, problems will exist between regions. Moreover, it would definitely enlarge the disparities among civil law, common law and social legal systems worldwide[72].

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[70] Ibid.

[71] Supra, note 2, p. 177+.

[72] Supra, note 2, p. 111+.

On the other hand, the possibility of regional agreements should not be dismissed, as far as liability of CNS/ATM is concerned, because in the event that a global system is not achieved, regional agreements represent a partial solution to the matter. If this pattern of partial multilateral agreements is established, and States reach common agreement on Air Traffic control liability issues, it is possible that a worldwide multilateral agreement on the subject-matter be reached in the future. In addition, regional agreements, are set up to bring unity among more or less equal States, economic and technical problems that Air Traffic Control agencies may face and the geographical situation of national territories of some countries which necessitate cooperation among States[73].

Finally, it is believed that regional Air Traffic Control agencies lessen the burden on the air traffic controllers and assist in resolving the problem of excessive coordination of Air Traffic and transfer of control among the Air Traffic Control units of different countries[74].

However, the best compromise, at this stage, taking into account both national interests of States, and the priorities of the International Community would be to draw a flexible Model Agreement.

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[73] Supra, note 2, p. 177+.

[74] Supra, note 2, p. 177+.

C. Model laws and their Possible Application

A Model Law is an exemplary law which enables the principles contained within an agreement to be incorporated in the domestic legislation of a State. Following Professor H. Perruchi's report[75], it seems that a majority of States are for the preparation of text of guidance on the subject-matter.

It is interesting to note that model laws would present the combined advantages of an International Convention and regional Agreements on the subject.

First of all, a Model Law would eliminate differences between legislations and lead to a review of domestic laws for their unification. As an International Convention, it would enable States to have similar legislation on the subject and as a regional agreement, it would permit a group of similar States to have an appropriate legislation on the matter. Hence, Professor H. Perruchi specifies in his report that model laws might well be accepted by a wider majority, including States which have not yet expressed their opinions and especially developing States which need illustrative texts to organize their domestic legislation. Moreover, it is interesting to note that all States in favour of a Model

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[75] Supra, note 11.

Law do not have any specific national legislation on Air Traffic Control liability. The subject is regulated either by general civil, administrative or criminal law, depending on the State juridical and economic status. A Model Law would enable those countries to have a specified and unified legislation on the subject[76].

Secondly, a Model Law would properly reflect the wishes of States because it has the advantage of being flexible, since it provides a Model that States can adapt to their legal system without infringing their sovereignty. Hence, a Model-text would reflect the wishes of States at large and not simply the wishes of some States, which is often the case at the ICAO where preponderant and influential States decide for the minority of States according to the voting and quorum procedures of the Chicago Convention[77]. A Model Law agreement would reflect much more the wishes of developing nations than an International Agreement would, because a Model Law would be modeled according to the economic and juridical needs of those nations as opposed to the imperatives of influential States. Conceivably, there would be three or four model laws on the subject reflecting the special needs of a group of States[78].

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[76] Supra, note 11.

[77] Chicago Convention 1944.

[78] Supra, note 11.

Although those Model Agreements may be convenient, because they would have the effect of creating unified concepts throughout the World, just like for regional agreements, problems although of a smaller impact would remain between regions maintaining the disparities among civil law, common law and socialist legal systems worldwide. Applicability of private international law and reliance upon a specified regulation of the subject-matter that would be proposed by ICAO may be an even better solution[79].

D. Applicability of Private International Law and Reliance upon a Specific Regulation on the Subject-Matter.

There are two problems which require discussion, namely the question of which jurisdiction the suit has to be filed in and which law should apply.

The issue of jurisdiction raises the problem that States are not willing to consent their jurisdiction to foreign courts. Practically speaking, it seems that only a single forum solution can be considered namely the agency location[80]. Although this is the wish of the International Community, it must be stressed that a single forum solution is not desirable and courts would have the tendency to

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[79] Supra, note 13, p. 1+.

[80] Supra, note 13, p. 1+.

deviate from this rule. It should be possible to also sue the Air Traffic Control agency in the same court in which proceedings against the carrier and/or operator have been instituted. According to Mr. Dahl, a graduate student from the Institute of Air and Space Law, the benefits would be apparent[81]. Regarding organizations providing Air Traffic Control services other forum outcomes may be envisaged such as the jurisdiction of the headquarters of the organization or of each member State where the accident occurred[82].

With respect to the liability of Air Traffic Control by ground and of Air Traffic Control through navigational and communication satellites it should be determined by the proper law, that is the law with which the facts have the most connecting points which may be either:

(1) the law of the State in whose airspace the aircraft accident occurred: the lex loci delicti or

(2) the law of the State having the most significant relationship with the occurrence and with the parties: the doctrine of the most significant point of contacts or

(3) the law of the State of the defendant, provider of the satellite service or

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[81] Supra, note 13, p. 1+.

[82] Supra, note 13, p. 1+.

(4) the law of the State of the defendant, technical personnel[83].

At this stage, it would be much easier for States to rely on Conflict of Jurisdictions, on Conflict of Laws and recognition of foreign Judgments[84]. However, although it may be perceived as a suitable and unanimous solution for the International Community today, the goal of this thesis is to promote an International system to regulate Air Traffic Control and CNS/ATM liabilities which is as unified as possible. It remains true that the application of the proper law among Conflict of Laws permits the arbitrator or the judge to discuss and examine thoroughly the facts and apply the right law to the facts and it can therefore be considered as a good and accurate solution for the time-being, from a national point-of-view[85].

On the other hand, if States apply private international law and rely upon a specified regulation on the subject-matter, one must question the purpose and the role of the ICAO, the Chicago Convention and its Annexes, as well as the International Conventions on different international civil

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[83] Lagerberg, "Conflicts of Laws in Private International Air Law" (1991), Institute of Air and Space Law, Thesis, McGill University, p.14.

[84] Ibid.

[85] Legal Committee. ICAO 29th Session. Saying of the Chairman of the Conference.

aviation issues. In my opinion, none. This conclusion is too pessimistic to be acceptable especially given the global legal trend in the aviation field[86].

As described earlier, attempts to draft an International Convention on the subject-matter should be abandoned. Nevertheless, it is desirable following Professor H. Perruchi's aim, to draft a proposal for a text of guidances on the issue[87]. Not a single model text is likely to be adopted but several Model Agreements taking into account different expectations of States are under study by ICAO[88].

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[86] Supra, note 7, p. 1+.

[87] Supra, note 11.

[88] Supra, note 7.

PART IV - PROPOSAL FOR A TEXT OF GUIDANCE ON THE SUBJECT-MATTER COMBINING AIR TRAFFIC CONTROL LIABILITY AND COMMUNICATIONS, NAVIGATION AND SURVEILLANCE/AIR TRAFFIC MANAGEMENT LIABILITY

Air Traffic Control and CNS/ATM liabilities will be combined within a text of guidance. For the Air Traffic Control liability topic, the task will be an easy one, since many Draft Conventions have been written on the subject-matter[89]. For the CNS/ATM liability, the task will be much more hazardeous since the system for civil aircraft is not yet functioning and few works have been achieved on the issue[90]. As far as navigational and communication satellites are concerned, a question can be raised namely whether or not the Space Liability Convention of 1972 can apply to a failure of the service provided by one of those satellites to the pilot on-board an aircraft or to the air traffic controller[91]. Authors have divergent views on the subject[92].

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[89] The Convention on Aerial Collisions (1964), IFATCA's Draft Convention (1976), Argentina's Draft Convention (1970). The last Proposal in the 1980's.

[90] Supra, note 7, p. 1+.

[91] Major Kevin K. Spradling, U.S. Air Force. The International liability ramifications of the U.S. Navstar Global Positioning System, p. 93+.

[92] Ibid.

The real question for GNSS, Global Navigational Satellite System[93], purposes is whether or not the provisions of the Space Liability Convention apply to indirect damages as well as direct damages, because if it does then it will apply to GNSS failures. In 1958, the issue was first addressed by the United Nations Ad Hoc Committee on the Peaceful Uses of Outer-Space (COPOUS)[94]. It was frequently raised as an hypothesis in the context of space objects impacting the Earth. Damages in space do not appear to have been part of the deliberations[95]. At a national level, the United States Congress has never indicated that liability in space included recovery for "non-physical damages" nor that indirect damages were covered by the Space Liability Convention. This is interesting to note, knowing that the United States has a very flexible attitude towards damages[96]. There are one of the most generous State in the world awarding damages (i.e. punitive damages in case of an aircraft accident). Several States as well as commentators have felt that the issue would cause great difficulties in the future and that the question should be left open to a subtle application of the Convention[97].

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[93] Ibid.

[94] Ibid.

[95] Ibid.

[96] Ibid.

[97] Ibid.

In addition, to the damages issue, there are other aspects of the Space Liability Convention that may limit its usefulness, i.e. claims made under the Convention must be filed by the individual's State through diplomatic channels. Even if a claimant can convince his Government to pursue a claim on his behalf under the Convention's claims procedure, there are no assurances that he will ever be compensated. Moreover, if the State is not bound by the Commission's recommendations, a claimant could conceivably wait many years before his claim is processed[98]. In my opinion, for all the reasons described above, it seems that indirect damages should not be taken into account by the Space Liability Convention of 1972, unless amendments are made to it, and that therefore it does not apply to navigational and communication satellites in the event of failure or malfunction[99].

At present, no International Space Convention applies to navigational and communication satellite failures or malfunctions. If the system is technically up-to-date, no legal instrument has been yet drafted on the subject-matter[100]. Hence, we will draft a Model Agreement on the subject and the following points will be envisaged: its Scope

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[98] Ibid.

[99] Ibid.

[100] ITU Convention, INMARSAT Convention.

of Application, Damage Inclusion and Exclusion, System of Liability, Limitation of Liability, Competent Jurisdiction and Applicable law, Prescription Limits, Guarantees in Favour of Damages to Victims, Diplomatic Clauses.

A. The Scope of Application

The scope of a Model Agreement should include Air Traffic Control agencies and navigational and communication satellite liability. We will study both entities separately and then we will combine them together since their task is interelated.

Air Traffic Control services scope of application under a Model Agreement should be as broad as possible, consistent with the previous Drafts written on the subject-matter[101]. These include services for the protection and regulation of flights, including those relating to Air Traffic Control, area control, approach control, aerodrome control, air traffic advisory service, aeronautical information, alerting services, meteorological services, airport facilities, aeronautical charts and other navigation supporting services and facilities[102]. Moreover, the Air Traffic Control agency should be explicitely defined.

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[101] Supra, note 11.

[102] Supra, note 40, article 1.2.

For Professor H. Perruchi, an agency is set up by States or authorized by them to provide services for the protection and regulation of flights. It is interesting to note that Professor H. Perruchi, who acted as ICAO's Rapporteur on this subject for many years, only contemplates States or Local Governmental Authorities even if Air Traffic Control agencies are operated by civilians or military units or belong to private, public entities or even mixed Air Traffic Control Authorities[103]. Since the parties to this possible Model Agreement will be States or International Organizations but not private entities in case of an Air Traffic Control liability suit, Air Traffic Control agencies will be assimilated to public entities, even if, in fact these are private bodies. Hence, in this event only State will be liable, which is a much easier solution situation for the International Community when dealing with an Air Traffic Control liability issue. It will not have to consider private entities and will only deal with Public International Law[104].

Within the text of guidance, the following international elements should be included: the multinationality of the flight, the nationality of the aircraft; the territory in which the flight is conducted; the nationality of the Air

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[103] Supra, note 11.

[104] Supra, note 11.

Traffic Control agency providing the service; the nationality of the Contracting State where the damage was caused; the nationality of the passenger on board the aircraft who may be either a national or a foreigner; the nationality of the claimant who may be of the nationality of the Contracting State where the damage was caused or of a different nationality[105]. In addition, different possible applicabilities of Air Traffic Control liability within the Model Agreement should be presented. Aside from the different possible applicabilities of the Argentina's Preliminary Draft Convention in part II of this thesis, Professor H. Perruchi describes two scenarios, namely, if an aircraft engaged in an International flight, which is over the territory of another State and under the control of an Air Traffic Control agency of a third State, and if an aircraft in a State other than the State of Registration, but under the control of an Air Traffic Control agency in its own State, has caused damage in another Contracting State[106]. What is interesting about these concrete cases is that first of all there were not envisaged before by the different Drafts studied previously in part II and second of all those two scenarios reveal well the internationalization trend in

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[105] Supra, note 11.

[106] Supra, note 11.

the aviation field which multiply the possible scenarios to be envisaged.

We could also contemplate as a good basis of work on the subject-matter Annex 11 to the Chicago Convention[107]. This latter defines Air Traffic Services. An extended reproduction of Annex 11 or at least reference to it may be appropriate for determining the scope of application of Air Traffic Control liability.

With respect to navigational and/or communication satellites, their definition and role should as well be described extensively because of their technicalities and wide spectrum. Moreover, although there are functional and were only used by the United States for military purposes, their failures and malfunctions have not yet been tested. The purpose of these satellites is distinct: Air - Traffic Service - Communication satellites are responsible for aviation safety, to accommodate the full range of aircraft types and airborne capabilities, to improve the provision of information to users, to have flexible airspace management, to use efficiently airspace, to increase the use involvement in Air Traffic Management decision-making and to create a single continuum of airspace where boundaries are transparent to users[108]. According to Mr. Stefan Kaiser, a graduate

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[107] ICAO Annexes - Annex 11 to the Chicago Convention 1944.

[108] Supra, note 7.

student from the Institute of Air and Space Law, Air Traffic Service Communication satellites have the most important and delicate task among Communication satellites[109]. They deal with the delivery of information to pilots. This piece of information should be as reliable as possible because the user as well as the passenger cannot take any counter-measures to avoid any deficiencies of the system, but must rely blindly on orders given by the satellites. On the other hand, Non Air-Traffic service - Communication satellites are responsible for on-board services for passengers. This service is not likely to result in an aircraft accident, causing damage to persons or object on-board the aircraft or to third parties on the ground. Damages which may result from non Air Traffic service - Communication deficiencies due to failure of Aeronautical operational control, AOC, Aeronautical administrative communication, AAC, and Aeronautical public correspondence, APC are only limited to financial disadvantages[110]. It is interesting to note that this distinction among Communication satellites has been established by the doctrine. The FANS Committee would probably have a different opinion on the subject-matter because it considers non Air Traffic service - Communication satellites part of the safety communication satellite

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[109] Supra, note 60, p. 215+.

[110] Supra, note 60, p. 215+.

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[109] Supra, note 60, p. 215+.

[110] Supra, note 60, p. 215+.

network[111]. As far as Navigational Satellites are concerned, they are provided either by the GPS or the GLONASS systems responsible for en route, terminal, non-precision approach, landing with appropriate augmentation precision approach and landing operations. It seems from the 29th Legal Committee to be used in the near future is the American GPS, Global positioning system[112]. Navigational satellites will replace all other present radio-navigation systems. In the long term the system diversity of avionics on-board could be avoided and the ground infrastructure could be reduced drastically thanks to navigational satellites. The orbital requirements for navigational satellites are higher than for communication satellites with need of several satellites serving as reference points. A navigation satellite system can use either geostationary satellites, highly elliptical inclined orbits, a system of 24 satellites of circular inclined orbits distributed symmetrically, or an hybrid system involving a mixture of the orbital concepts[113]. As for today, a broad and precise definition of those satellites should be given within a Model Agreement, nevertheless it is certain that some possibilities of failures or malfunctions of those

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[111] Supra, note 7.

[112] Legal Committee ICAO 29th Session, saying of the Chairman of the Conference.

[113] Supra, note 91.

satellites may not be established since the system was not attempted yet for civil uses.

Navigational and/or communication satellites will involve three authorities: all States (Contracting or non Contracting States) of ICAO, the ICAO and the different service providers (States or International Organizations such as INMARSAT). As in the case of Air Traffic Control liability, only public entities will be taken into account, which will be advantageous for the International Community because it will only deal with International Public Law.

In both cases, whether in the Air Traffic Control or CNS/ATM area, it is the State which provides the service which may be liable. In other words, the government must consent to be sued by either its nationals or foreigners, and its sovereign immunity should be waived. In my opinion, no exceptions should be made in favour of the State provider of the service[114]. This would be too much to the advantage of the latter. The State user of the service should be protected, since it will be very difficult for it to prove a failure or malfunction on the part of the State provider. Of course, it is certain that the States providing the service will not be willing to waive their sovereign immunity so easily. A few exceptions, as a compromise, will certainly have to be drawn-up within a model-text INMARSAT, a possible

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[114] Supra, note 4, p. 34+.

provider of the service in its information paper to the ICAO Legal Committee - 29th Session, maintains disclaimers of liability of INMARSAT for loss due to telecommunication breakdowns and requires Land Earth Stations Operators to obtain a corresponding disclaimer of liability in their contracts for provision of services to users, if consistent with national law. Land Earth Station Operators are also required to indemnify INMARSAT against third party claims due to telecommunication breakdowns resulting from acts or omissions of Land Earth Stations Operators. These telecommunication disclaimers are consistent with the principle set forth in article 36 of the International Telecommunication Union Convention[115].

If we examine the provision of the United States FTCA[116], it includes a domestic legislation for military aircraft using navigational and/or communication satellites. The sovereign immunity applies in four cases. The discretionary function exception is the most significant of the four. The FTCA's waiver of sovereign immunity will not apply to claims arising out of the exercise or performance or failure to exercise a discretionary function or duty on the part of a federal agency or an employee of the Government.

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[115] Legal Committee - 29th Session (Montreal, 4 - 15 July 1994). Working Paper LC/29-WP/3-4, 15/6/94.

[116] Federal Tort Claims Act.

Some U.S. courts decisions have eroded this broad decision by distinguishing between acts which are truly discretionary and those which occur at an operational level. For instance, in a recent case the court held the U.S. Government liable when an air traffic controller cleared two aircrafts to land on the same runway at the same time - resulting in a midair collision[117]. In its analysis, the court determined that the decision by the U.S. to provide Air Traffic Control services was a discretionary act, but that once the decision was made and Air Traffic Control procedures defined and mandated, the action of the air traffic controller in violation of these procedures constituted negligence and an operational error subject to action under the FTCA. Many U.S. courts have addressed the discretionary level - operational level distinction, generally expanding the scope of the latter and refining at what point discretionary acts end and operational level acts begin[118].

The second exception is for claims arising in a foreign State which is not of interest to the subject-matter, since the GPS is a Global International System and in this case the waiver of sovereign immunity should apply[119]. The same applies to the exceptions for injuries suffered as a result

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[117] Supra, note 91 and note 4.

[118] Supra, note 4.

[119] Supra, note 91.

of combat activities of the armed forces and Coast Guard during times of war and suits under the Admiralty Act. It does not integrate the subject-matter, because we are dealing with civil navigational and/or communication satellites[120]. Should those disclaimers apply internationally as well? In my opinion, this may be a good suggestion, but this should not imply or lead to multiply liability disclaimers, to go back to national models where the waiver of sovereign immunity is not too common[121].

Hence, it would appear that the scope of applicability of such a Model Agreement should be as broad as possible to protect the State user of the service and that sovereign immunity should be waived as much as possible.

B. Damage Inclusion and Exclusion

Following the Scope of Application section, we will examine damages entailed by Air Traffic Control agencies and then by navigational and/or communication satellite and finally we will study the case of shared damages among them. We will exclude also certain types of damages.

Damages that may arise as a result of negligence, other wrongful acts or equipment failures on the part of Air

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[120] Supra, note 91.

[121] Supra, note 91.

Traffic Control services may be either damages to persons or to objects (moveables/immoveables).

With respect to persons, there may be passengers or crew members either on-board or outside the aircraft or third parties on the earth's surface. The injuries caused may be either physical or/and moral injuries and even delays caused to passengers by the Air Traffic Control agency[122].

Objects may be an aircraft, commodities in an aircraft, buildings or animals. The damage may consist of complete or relative destruction or even just delays of goods. As compared to persons the variety is greater: every object in the airspace or on the surface of the earth may be subject to impairment. The damages may be suffered by direct owners of the objects, but also by indirect owners of the objects such as a manufacturer who has sold an aircraft according to a conditional sale agreement, persons with a contract for later use of the object (provided that such an agreement gives rise to an action for compensation under the applicable domestic law)[123].

Finally, insurance companies which have insured persons or objects will often be interested in recovering payments made to victims in accordance with the insurance policy terms. Apart from the persons who may be involved and

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[122] Supra, note 13, p. 86+.

[123] Supra, note 13, p. 1+.

objects damaged, it is insurance companies which insure the damages suffered that in fact have the greatest interest in the subject-matter[124].

Although we mentioned delays several times at this stage, following the Preliminary Draft International Convention on the Liability of Air Traffic Control agencies presented by Argentina, it would be wise to exclude delays of aircrafts from the Model Agreement when Air Traffic Control agencies have good technical reasons for delaying an aircraft. Moreover, it is necessary to avoid the danger of hasty actions in order to avoid delays. There will be no liability if technical reasons or other motives make a delaying order necessary. At the contrary, the question will change if Air Traffic Control negligence caused the delay. Delays should, therefore, in principle be excluded[125].

It seems that noise and sonic boom should also be excluded: the Air Traffic Control agency would eventually only be liable if it rendered incorrect information as to noise regulation or ordered the aircraft to break the sound barrier at a location where prohibitions exist[126].

With respect to navigational and/or communication satellites damages, we should refer first of all to the Space

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[124] Supra, note 13.

[125] Supra, note 40, article 42.

[126] Supra, note 40, article 2.

Liability Convention, although not applicable here, and to specified damages that these satellites could entails. On the one hand these satellites could damages on the earth to third parties or in space if colliding with other Space objects. Those damages are described under Articles II and III of the Space Liability Convention[127]. On the other hand, specified damages of navigational and/or communication satellites are more complex since the number of factual scenarios one can imagine for GPS liability is endless and the system although functional has not yet been used for civil purposes. It would appear that two main features may attract liability concerns the ability to warn users of erroneous information or degraded coverage, and the implementation of selective availability. In the latter instance, the accuracy of the information is deliberately degraded for national security reasons[128].

(1) Warning: The theory is simple when the government offers navigational assistance, thereby inducing reliance upon that assistance, then it should not escape liability for damages caused by its mistakes. In practical terms, the State must keep the GPS in good working order, ensure that adequate measures are in place to discover failures or malfunctions and must give timely warning in the appropriate

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[127] Space Liability Convention 1972.

[128] Supra, note 91.

circumstances. These requirements are not absolute but should be followed. Among other considerations, the reasonableness of the efforts made to fulfill these responsibilities is of critical importance. Currently the GPS and its related support network provides two warning or information streams. The first comes from the satellite itself. A satellite message is transmitted as part of the GPS navigation message and received by civil users.

When an error is detected, users are notified within seconds. Other failures, such as the transmission of position data that is slightly off, may be detectable only by the control segment and may take longer to be detected from 15 - 20 minutes or even longer, and from an hour to days to correct. It is this inability to notify users on time or close to the time basis that may be the cause of damages to objects or persons on-board the aircraft, to the aircraft itself or to third parties on the earth if an aircraft crashes. The second information is of a more traditional nature and is the GPS equivalent of NOTAM's Notice to Airmen or Notice to Mariners' reporting system. While mistakes can be made in the compilation and distribution of information through NOTAMs, such errors are not as likely to cause the sort of catastrophic accident that faulty real-time data could be responsible for[129].

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[129] Supra, note 91.

(2) Selective Availability: The purpose of Selective Availability is to ensure that in time of crisis, only authorized users receive the best available information. The use of Selective Availability presents no liability problems as long as Standard Positioning Service, S.P.S., accuracy is maintained but if it fails to maintain the promised levels without adequate notice to the user, the implications may be different.

As compared to Air Traffic Control agencies damages, it seems it is too early to exclude damages caused by navigational and/or communication satellites because the system is too new and it would be too advantageous of the GPS provider. We will, therefore, not exclude any possible damages caused by these satellites. This position may be reconsidered after a few years of the functioning of the system[130].

C. System of Liability

With respect to the system of liability, it seems that since the first works done on Air Traffic Control liability all States have favoured a system of liability based on fault

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[130] Ongoing GPS experiments demonstrate potential of satellite navigation technology by J. Nielsson & K. Eidelerg, ICAO Journal, May 1993, p. 12-15.

with the burden of proof vested in the claimant[131]. Of course, the question of whether or not a fault liability system should be exchanged to a strict liability system, is left to questioning. In my opinion, I am in favour of a strict liability system because one of the principal criticism of the fault based system is centered on the practical difficulties of proving negligence or the absence of it. With technology expanding it becomes increasingly difficult for either the victim or the Government to establish the exact cause of the accident and it may be impossible if the aircraft was destroyed in flight. Even if the cause can be ascertained, the complexities of the aircraft technology and modern security equipment, combined with the confidential nature of much of the evidence, means that a great deal of costs and delays will be involved when litigating the issue.

It is submitted that a strict liability regime would alleviate those problems by shortening litigation periods and reducing the cost of proof. Another strong argument in favour of this strict liability system is that no victim will be left without compensation so long as he does not contribute to his own injury: an award is automatic based only on the causal link between the accident and the injury.

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[131] The Convention on Aerial Collisions (1964), Argentina's Draft Convention (1970), IFATCA's Draft Convention (1976), The Last proposal in the 1980's.

Finally, it is submitted that the present fault-based Air Traffic Control agency liability system is outdated and insufficient to provide a solid basis for compensation to the victim. There is a noticeable trend in air law towards a non-fault regime[132].

Unfortunately, the legal trend for Air Traffic Control liability seems to remain a fault liability system. One will observe that the liability of CNS/ATM is a very different issue and that the solution might be more mitigated.

According to Mr. Stefan Kaiser, a graduate student from the Institute of Air and Space Law, the liability regime of ATS and non ATS satellite communications should be distinguished[133]. The liability for ATS - Communication satellite should be of strict liability in order to protect the user. The ATS Communication satellite delivers information to the pilot. This information should be as reliable as possible. The user as well as the passenger cannot take any counter-measures to avoid these deficiencies but must rely blindly on orders given. Under a fault liability system, the user who has suffered the damage would have to prove that the activity of the service has been caused by technical failure. This would be very difficult to

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[132] C.A. Zuzak, "Liability for Breaches of Aviation Security Obligations". (1990) Institute of Air and Space Law, McGill University, Thesis p. 1+.

[133] Supra, note 60 p. 215, 216.

prove for non professionals. Moreover, the technical failure may occur independent of fault. Hence, a strict liability regime is recommended[134].

For non ATS - Communication satellite, a fault liability system can be justified, because this service is not likely to result in an aircraft accident, causing damage or loss of life, of aircraft or damage to third parties on the ground. Damages which may result from non ATS - Communication deficiencies due to failures of AOC, AAC and APC are only limited to financial disadvantages[135].

As far as navigational satellites are concerned, we would be in favour of a strict liability regime as in the case of ATS - Communication satellites for the same reasons mentioned above. A fault liability system, as Mr. Stefan Kaiser suggested, is perhaps a move backward and gives too much protection to the provider of the service that is a State, and an International Organization or even a private entity[136].

It is interesting to note that basically the academical trend favours strict liability versus fault liability[137].

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[134] Supra, note 60.

[135] AOC = Aeronautical Operational Control.
AAC = Aeronautical Administrative Communication.
APC = Aeronautical Public Correspondence.

[136] Supra, note 60, p. 241.

[137] Supra, note 50.

In fact, the industry differs from this point of view. SITA, "Société Internationale de Télécommunication aérienne", who might in the future become provider of services by the usage of navigational satellites is not in favour of a strict liability system. It suggests a fault liability system. Its reasons are the following: it considers that failures or malfunctions of navigational satellites providing the service are to be extremely rare if not impossible, because of the accuracy and preciseness of the system and therefore the user has enough guarantees when using the system so that it should not have to rely on a strict liability system, where fault is not to be proven. Moreover a fault liability system would be adaptable to each contract made with a user, which would also ensure enough protection to the latter[138]. This point of view should be kept in mind because a Model Agreement should take into account those different views in order to be unanimously accepted by States. Other ways this will surely be a barrier for the entering into force of such a Model Agreement.

Hence, in order to choose the most appropriate system several questions should be kept in mind. Which of these regimes best protects the interests of the victim as well as

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[138] Interview at SITA June 1994 with Mr. Andrew Dawe, Manager Legal Services Americas and Caribbean and with Mr. Keith H. King, Assistant to Vice President and General Manager, North America and Caribbean.

the Government or other service providers? Are the utility and efficiency aspects of strict liability sufficient to justify the fact that wholly innocent parties will sometimes be paying for faultless conduct? Finally, isn't a strict liability regime more adapted to industrialized States and isn't a fault liability system more appropriate to developing States[139]?

Having examined the liability rules governing the liability of Air Traffic Control agencies and CNS/ATM, it appears that the features of liability are complex. It is submitted that the unequal treatment of victims or damages to objects stems from the choices made of two different policy options: first whether liability should be based on fault or strictly imposed; and secondly, whether liability should be limited or unlimited. The options are complicated by the fact that one option does not necessarily lead to a qui pro quo for the other. The choice of a strict liability regime does not necessarily dictate the adoption of a limited liability system over one of unlimited liability. There are thus four policy options which could be taken into account depending on the State's state:

- A fault-based system with limited damages.
- A strict liability system with limited damages.
- A fault-based system with unlimited damages.

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[139] Supra, note 132.

- A strict liability system with unlimited damages[140].

D. Limitation of Liability

Irrespective of whether a fault or a strict liability system is adopted to compensate victims of aircraft accidents, a second point must be addressed whether liability should be limited or unlimited[141].

Whether for Air Traffic Control or/and CNS/ATM liability, high limits of liability should be the rule, but to allow all States to implement this Model Agreement, they should be able unilaterally to increase or lower the limits to proportion them to their own economies. Although the need for unification in this area is clear, one should remain realistic and a flexible Model Agreement would leave States free to decide the amount at which the limits should be set up. Hence, within a Model Agreement, two options could be proposed dealing with limited of liability. The first option would put forth the establishment of monetary limits for the recovery of damages, according to the State's economy. Such a system would very well suit States with strong economies and especially Air Traffic Control agencies liability rather

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[140] Supra, note 132.

[141] Supra, note 132.

than CNS/ATM liability. Indeed, Air Traffic Control agencies are mainly owned by States and according to the financial possibilities and gross national products of those States, a liability regime may be envisaged. On the other hand, CNS/ATM presently is provided by the United States which can afford an unlimited liability in case of a malfunction or failure of navigational and/or communication satellites[142]

Limited liability of Air Traffic Control agencies is advantageous for States with weak economies because in the event of an accident due to the Air Traffic Control agency, the State liable knows exactly what recovery should be awarded. No negotiations will take place and the ceiling will not be discussed, since the maximum ceiling is already established. Hence, it is gain of time and effectivity. Moreover, it permits the victim to know in advance the sum he/she will be awarded. With respect to insurance, it gives him/her the option to decide for themselves whether or not to incur the extra cost of private insurance[143].

As a second option, unlimited liability is more suited to States with strong economies. Fixing of maximum limits is used merely to protect and promote the interests of the victim. The deprivation of the full recovery of damages by artificially imposed protective laws has no justification

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[142] Supra, note 50.

[143] Supra, note 50.

when a State can afford unlimited liability. Monetary limitations are then seen as being archaic. For Professor Bin Cheng, such a regime when a State can afford it is integrated and absolute, unlimited and secured[144]. With regard to CNS/ATM liability, as described above, the State provider of the service such as the United States or an International Organization such as INMARSAT[145] or private companies such as SITA can afford unlimited liability in theory. In practice, the United States might take this position following its air carrier liability regime[146], but INMARSAT and SITA might be reticent to this procedure and might be willing to have high limits with a maximum ceiling. In my opinion, this is not very comprehensible taking into account the service provided, on the other hand it is necessary to be realistic and to reveal as much as possible the legal trend that could be envisaged in the coming years in order to have a system that is as unified as possible, despite its flexibility.

Moreover, the liability whether limited or unlimited reveals two different philosophies. The question is whether or not the victim is to be restored to "status quo ante" or

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144 Professor Bin Cheng presented at the International Law Association, Belgrade Conference (1980), Report by the Air Law Committee 1980.

145 SITA's interview (July 1994).

146 Ibid.

whether the victim should be compensated for amounts exceeding the damages actually suffered.

At this stage, again a line should be drawn among Underveloppped and Developped countries. The former can only afford a "status quo ante" indemnisation and perhaps an amount which is even less than the actual damages suffered. On the other hand, the latter would favour a high compensation rate and perhaps an amount exceeding the damages. Is this legally fair? Once again the problem is not a legal one, but rather of a political and economic nature. The reality is that life does not have the same monetary value in poor and rich countries and therefore the indemnisation of a victim will differ from one State to another. A compromise among those two systems would be compensation of actual damages. This solution may satisfy disparate Regions of the World if the compensation would be calculated according to the law of the State of origin of the victim. Hence, each State would be content with the damages awarded to its national victims.

E. Competent Jurisdiction and Applicable Law

With respect to Jurisdiction, the Secretariat of ICAO within Agenda item 7 of the Legal Committee 29th Session specifies that any action should be brought before the court

of the State where the Air Traffic Control agency is located or before the court of the State in which the cause of action arose or before the court of the State designated by a group of States in case of an international agency for Air Traffic Control Services[147]. These three solutions are relevant because they reveal a possibility of choosing among different jurisdictions according to the facts and the benefit will be apparent[148].

As regard to navigational and/or communication satellites, the Legal Committee at the 29th Session has not suggested possibilities to bring actions before certain courts rather than others. In my opinion, any action could be brought before the court of the State provider location or headquarters (i.e.: in the case of GPS it would be the United States Court which would be competent, i.e. in the case of GLONASS it would be the ex-U.S.S.R. court which would be competent, finally in the case of INMARSAT it would be the jurisdiction of its headquarters location which would be competent), or before the court of the State in which the cause of action arose. In both cases, the competent jurisdictions are similar to the forum solution of Air Traffic Control liability. The last choice proposed by the ICAO Legal Committee for Air Traffic Control liability cannot

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[147] Supr, note 11.

[148] Supra, note 13.

be duplicated for CNS/ATM forum solution because presently the entities provider of the signals did not regroup themselves within an international entity.

Once the jurisdiction has been determined, the applicable law is to be defined. The liability of Air Traffic Control liability by ground and through the use of navigational and/or communication satellite should be determined by the proper law, that is the law with which the facts have the most connecting points which may be either, as already described in Part III, Section D:

(1) the law of the State in whose airspace the aircraft accident occurred: the lex loci delicti. This rule has for a long time been, and often still is, the general rule under which the law applicable to tort claims are determined. The advantage of the rule is its ease of applicability and predictability of outcome especially in case of an air crash; or

(2) the law of the State having the most significant relationship with the occurrence and with the parties: the doctrine of the most significant point of contacts. This rule is to achieve the best compromise for the parties, it is very often relied upon in International Private Law; or

(3) the law of the State of the defendant, provider of the satellite service; or

(4) finally the law of the State of the defendant, technical personnel. The law applicable is the law of the State air traffic controller residency or nationality[149].

Competent Jurisdictions and Applicable Laws defined within a Model Agreement if implemented by States have the advantage to unify Conflicts of Jurisdictions and Laws which is presently the best that the International Community could achieve in the field of Air Traffic Control and CNS/ATM liability, without giving up their sovereignty.

F. Prescription Limits

Contrary to the Warsaw Convention[150] which fails to express explicitly whether its provisions are of prescriptive nature or just an ordinary statute of limitation, a Model Agreement on Air Traffic Control and CNS/ATM liability should include a chapter devoted to prescription[151].

Prescriptions are explained by a need of order and especially short prescriptions. If the delay is brief this is because especially bodily and/or moral injury may not be ascertained before later than two years from the event which

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[149] Supra, note 83.

[150] Warsaw Convention, article 29.

[151] Supra, note 40, Chapter V.

gave rise to the damage occurred[152]. A principle should provide for a prolonged period for recourse actions. The rationale should be that not before the first case is completed, should it be possible to decide whether an additional recourse suit will be filed.

Suspension or temporary cessation of prescription should be possible. Contrary to the Argentina's Draft proposal, which stipulates that the reasons for suspension or temporary cessation or prescription shall be those determined by the law of the court which hears the case[153], I do believe the causes of suspension or temporary cessation should be determined within a Model Agreement and not left to nation's own will.

G. Guarantees in Favour of Damages to Victims

Within a Model Agreement guarantees in favour of Damages to victims should be included, whether the Air Traffic Control agency or the provider of the service is a State or a private entity. It seems that the Argentina's Draft Convention excluded the State as Air Traffic Control agency. I do not agree with this provision[154] because I believe that

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[152] Supra, note 40, article 26.1.

[153] Supra, note 40, article 26.4.

[154] Supra, note 40, article 28.

this gives rise again to sovereign immunity which should be avoided as much as possible. The guarantees given to victims should include:

- subsidiary guarantee of a Contracting State;
- endorsement by a bank of a recognized solvency or of another institution authorized by one or more Contracting State;
- through insurance with an insurance company authorized by the Contracting State and suitable for the type of insurance involved[155].

All those provisions should also apply to Air Traffic Control agencies, as multinational bodies[156].

H. Diplomatic Clauses

The Diplomatic clauses will be among the most important provisions of this Model Agreement because they will determine whether or not a State will implement it in its national legislation. Therefore it should be extremely flexible for States to agree upon. It should include the following provisions:

- a clause dealing with settlement of disputes in case of any disagreement among Contracting States and/or

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[155] Supra, note 40, article 27.

[156] Supra, note 40, article 29.

International Organizations such as ICAO or INMARSAT A court of arbitration to resolve these problems, would be favoured, for effectivity reasons.

- the entry into force of this Model Agreement should be self-executing after the signature of it by States. The procedure of ratification should be avoided because it is time consuming and it might prevent the instrument to come into force if the number of ratifications requested is not reached[157].

- the procedure of denunciation should be very flexible so that States do not feel locked into an instrument. The notification of denunciation, its delay and its effect should not be restricting so as to encourage States to be party to this Model Agreement[158].

- reservations should be possible as long as these are not against or contrary the aim of the Model Agreement. In the past Drafts, reservations were only admitted with respect to the International Court of Justice and with respect to State aircraft. At present, more flexibility should be allowed[159].

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[157] Supra, note 57, p. 458+.

[158] Supra, note 57, p. 476+.

[159] Supra, note 57, p. 465+.

PART V - CONCLUSION

Air Traffic Control Liability and CNS/ATM Liability is a long-term issue. Sixty years of work has been achieved on the former. The latter is presently technically up-to-date and on the floor, juridically a lot of work has to be done on the subject-matter. The 29th Session of the Legal Committee (Montreal, July 1994) has attempted to draft a long-term Memorandum of Understanding, where the question of liability and responsibility of Air Traffic Services was sketched out. It is hoped that the International Community will join this proposal to progress on the matter. In my opinion, one should remain realistic and acknowledge that the liability issue of Air Traffic Control and CNS/ATM is a long-term issue and that the Memorandum of Understanding put forward was the fruit of several days of work and was not a text made for the International Community but rather would serve the interest the United States as of GPS provider[160]. It seems that if this instrument is approved by the United States Government, it will come back to ICAO for further studying, although

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[160] Legal Committee - 29th Session (Montreal, 4 - 15 July 1994) Agenda Item 11: Report on work done at the Session Draft Report on the work of the Legal Committee during its 29th Session. LC/29-WP/11-1, 11/7/1994. Draft Agreement between the International Civil Aviation Organization (ICAO) and (name of provider of GNSS signal) regarding the provision of signals for GNSS services.

officially following the State's of Ghana proposal[161], the ICAO presently continues working on a possible instrument on the issue. Progressively with the internationalization of the world, States will hopefully understand that a uniform legal system is a better compromise than heterogeneous legal systems. At this stage, the achievement of a uniform agreement on the subject seems doubtful because too many political issues are involved. Hence, as was suggested along this thesis reliance on a flexible instrument such as a Model Agreement appears to be the best compromise presently.

In my opinion, I would even go a step further, I do believe that Air Traffic Control liability and CNS/ATM liability should remain a national matter. Air Traffic Control and CNS/ATM issues should be studied by the ICAO,

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[161] Ghana's Proposal made at the 29th Session of the Legal Committee regarding the continuation of the work on the CNS/ATM issue. The text was as follows: "The 29th Session of the Legal Committee recommends to the Council of ICAO to set up a Panel of Technical experts with the following themes of reference taking into account:

A- The Report of the Rapporteur LC29 WP/3/1/
B- ICAO Council Policy on CNS/ATM LC 29 WP/3/2
C- Reports of the 28th and 29th Session of the Legal Committee
D- And any other relevant documents:
   1) to consider different types and forms of the long-term legal framework for GNSS services indicating pro and con for each form and their preferences
   2) and in particular the need, if any, for a Convention to elaborate the legal framework which would respond interalia to the fundamental principles, set out in paragraph 6 of the Rapporteur's Report
   3) to prepare Draft texts including a model contract using the check-lists approved by the 29th Session of the Legal Committee for consideration by the ICAO Council."

but should remain a State's domain when dealing with the complex liability matters. If this proposal was taken into account by the International Aviation Community, States would save time and money. At a national level, States could work on a specific legislation on the subject-matter, which appears to be a wiser choice than concentrating endless efforts on a subject which is not to be internationalized in accordance with the present International Community attitude.

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