

**SPACE INSURANCE AND THE LEGAL ASPECTS
OF ALLOCATING RISK AND LIABILITY
AMONG STATE AND PRIVATE ENTITIES**

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Abstract

The purpose of this paper is to examine the relationship of space insurance to the allocation of risk and liability among state and private entities in the United States. Specific areas of inquiry will include the nature of the space insurance market and the implications of recent U.S. litigation. The latter section focuses on two recent federal appeals court cases that have significant implications for relationships of "sophisticated" private entities with each other and with the state. After analyzing the issues raised by these cases, the paper will conclude with recommendations to facilitate the efficient operation of the space insurance market.

**The Space
Insurance Market**

The failure of several launches over the past year has raised concerns in the space insurance market about its capacity for coverage and the prospects of

rising rates. Although some of those launches were self-insured, the failures still must be taken into consideration by risk managers who may use the same type of launch vehicles in the future. One such example is the Russian Proton rocket, which failed to place a Gorizont communications satellite on orbit earlier this summer.¹

Russia would like to earn hard currency by entering the commercial launch market, and the international mobile satellite organization INMARSAT had announced last autumn that it planned to launch its next-generation INMARSAT III satellites on the Proton.² Motorola is also planning to use the Proton to launch its Iridium low Earth orbit communications satellites.³ According to William Mayo, president of U.S. space insurer Willis Carroon Inspace, due to the Gorizont launch failure, "[t]here will be the inevitable reviews and that sort of thing.... But major reviews of Proton were going to take place anyway, because nobody in the underwriting community has enough knowledge to make any sort of risk assessment."⁴

Risk Management

The concerns about the Russian Proton rocket, which is generally a reliable launch vehicle, illustrate the broad range of issues that all risk

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managers involved in space activities must take into consideration. According to Wayne Mielke, manager of risk and insurance for Telesat Canada, "risk management is not simply the procurement of launch insurance and in-orbit insurance, but rather an overall approach that must address the technical risk element and emphasize the ongoing, overall management of its satellite infrastructure."⁵ As a result, space risk managers must be concerned with the design and production of launch vehicles and satellites, the back-up systems and redundancies of the infrastructure, and alternative provision of services in case of delays or failures.

Insurance Rates and Capacity

On March 11-12, 1993, space industry risk managers and underwriters gathered at the 7th International Space Conference in Rome. Frederick M. Bartlett, vice-president of Telesat Canada, told the audience "it is imperative that we dramatically reduce the cost of launch and in-orbit insurance."⁶ He said that insurance was one of the three most important cost elements for satellite operators, and only a reduction in launch failures from the current 17-20% rate would bring down that cost. In addition to risk managers imposing strict quality control on contractors and subcontractors, Bartlett called on the underwriters to distinguish risks and charge lower rates for proven systems.

Underwriters responded that while they generally agreed with Bartlett, the small market and the great risks created "a serious danger that this insurance market will discontinue," according to Benito Pagnanelli of Italian underwriter Assicurazioni Generali, S.p.A.⁷ In fact, Wil-

liam Mayo of Willis Carroon Inspace earlier had predicted that due to recent launch failures, insurance rates were likely to increase "1 to 2 percentage points in the next 12 to 18 months."⁸ Furthermore, insurance capacity is only now recovering from the low point of the 1980's, and new entrants into the launch market, such as the Russian Proton and Chinese Long March rockets, will put additional pressure on insurance capacity and rates.⁹

State and Private Entities in the United States

The space insurance market is driven not only by capacity and assessments of technical risks. Another critical factor is the legal framework in which risk and liability are allocated.¹⁰ With regard to the United States, the allocation of risk and liability among state and private entities has been treated from several different perspectives in previous colloquia.

For example, a survey of only the last three Proceedings reveals the following articles: (1) a comparison of third party liability, government indemnification, cross-waiver, and government property insurance issues relating to commercial ELV and NASA STS launches;¹¹ (2) the liability ramifications of the U.S. Air Force NAVSTAR Global Positioning System (GPS);¹² (3) security interests and creditors' remedies under U.S. as well as international law;¹³ (4) a comparison of risk allocation provisions in the contracts of five major commercial launch providers;¹⁴ (5) choice of law issues and causes of action under U.S. law;¹⁵ (6) U.S. practice regarding cross-waivers of liability;¹⁶ and (7)

an analysis of the Martin Marietta litigation involving the INTELSAT VI satellite launch failure.¹⁷

Rather than duplicating the work of these articles, this section will focus on legal developments over the past year that have important implications for the allocation of risk and liability among state and private entities in the United States. The first area of discussion will be the appeal of the Martin Marietta case that was decided on October 21, 1992.¹⁸ This case concerned the allocation of risk and liability among two private entities. Although the International Telecommunications Satellite Organization (INTELSAT) is comprised of state representatives, its launch agreement with Martin Marietta was a purely commercial act that was treated as a contract between private entities by the U.S. courts. The second area of discussion will be the appeal of the Hughes case that was decided on July 7, 1993.¹⁹ This case concerned the allocation of risk and liability among the state and a private entity. Because both cases were decided by federal appeals courts, the holdings will stand unless overruled by the U.S. Supreme Court.

The Martin Marietta Case or Implications for "Sophisticated" Private Entities

This case concerned the appeal of two decisions by the U.S. District Court for the District of Maryland. After its launch vehicle failed to place the INTELSAT VI satellite in the proper orbit, Martin Marietta sought a declaratory judgment that it owed INTELSAT nothing under the launch contract. Because Article 21 of the contract specified that Maryland law governed, Martin Marietta could have brought its action in a Maryland

state court. However, since Martin Marietta and INTELSAT are based in different states and the amount in controversy was so great, Martin Marietta had the option of bringing its action in federal court under "diversity" jurisdiction.²⁰ Nevertheless, even in federal court, Maryland state law governed claims arising under the contract. INTELSAT counter-claimed for breach of contract, as well as under negligence, gross negligence, and negligent misrepresentation in tort. The district court granted Martin Marietta's motion to dismiss the tort claims in an April 1991 decision that was published,²¹ and the contract claim was dismissed in an unpublished decision in November 1991.²²

Contract claim

The appeals court first reviewed the contract claim and found that the district court had erred in granting Martin Marietta's motion to dismiss.²³ Contrary to the opinion of the district court, the appeals court held that the contract was not free from ambiguity with regard to what constituted a "mission failure." INTELSAT argued that its claim was for failure of the booster and satellite to separate from the launch vehicle, not for a complete "mission failure." The judicial standard for reviewing motions to dismiss is to determine whether the claim has any merit whatsoever, even in the light most favorable to the non-moving party.²⁴ Without a clear definition of "mission failure" in the contract, the appeals court held that the district court erred in accepting Martin Marietta's construction of the contract as unambiguous.²⁵

In addition, the appeals court found that the district

court erred in accepting Martin Marietta's argument that there was no ambiguity with regard to the remedies specified in the contract. Although Article 6 provided that a replacement launch was INTELSAT's "sole and exclusive remedy," Article 17 provided for a cap on damages "arising under contract" as well as under tort claims. Under the standard of review, INTELSAT's argument that these provisions could be in conflict, thus rendering the contract remedies ambiguous, should not have been rejected by the district court. As the appeals court stated, "Martin Marietta certainly could have included clearer language, if it intended at the time of contracting to limit INTELSAT's remedy in the way it now argues."²⁶

Tort claims

With regard to INTELSAT's tort claims, the appeals court first affirmed the dismissal of the negligence action, citing with approval the district court's reasoning. "Equally sophisticated parties who have the opportunity to allocate risks to third party insurance or among one another should be held to only those duties specified by the agreed upon contractual terms and not to general tort duties imposed by state law."²⁷ INTELSAT could have purchased insurance to cover any losses caused by Martin Marietta's faulty wiring, but it chose not to do so. The appeals court, like the district court, refused to impose any duties on Martin Marietta beyond those specified in the contract.

The district court's dismissal of INTELSAT's negligent misrepresentation claim was also affirmed by the appeals court. "Maryland law holds that a claim for negligent misrepresentation is improper when, as here, the only relationship between the

parties is contractual, both parties are equally sophisticated, and the contract does not create an express duty of due care in making representations."²⁸ Furthermore, the appeals court found that any alleged misrepresentation by Martin Marietta occurred after the contract was formed and thus did not induce INTELSAT to enter into the contract in the first place.²⁹

With regard to INTELSAT's gross negligence claim, the appeals court reversed the district court's dismissal and held that "under Maryland law, a party to a contract cannot waive liability for gross negligence."³⁰ In contrast to simple negligence and negligent misrepresentation claims, the sophistication of the parties is not relevant in cases of gross negligence under Maryland law.³¹ Finally, the appeals court reversed the district court's holding that the Commercial Space Launch Act Amendments of 1988, 49 U.S.C. App. §§ 2601-23, precluded gross negligence claims. Not only was the contract signed over a year before Congress passed the Amendments, but even if they applied retroactively, "neither the language of the Amendments nor their legislative history reflect a Congressional intent to protect parties from liability for their own gross negligence."³²

Implications of the Martin Marietta Case

There are several important implications of the Martin Marietta case. The first, and most general, lesson is that brevity and clarity always should be guiding principles in drafting documents, even for complicated contracts such as launch agreements. In this case, the problem was that the

catch-all liability limiting provision of Article 17 of the contract conflicted with the "sole and exclusive" replacement launch remedy of Article 6. If Martin Marietta wished to limit any contract remedy to a replacement launch, it should not have included a reference to claims arising under contract in the catch-all provision. The resulting ambiguity caused the ultimate defeat of Martin Marietta's motion to dismiss INTELSAT's contract claim.

With regard to the tort claims, an important lesson is that courts are reluctant to impose duties on sophisticated private entities that are beyond those specified in the contract. Parties must allocate liability among themselves and seek third party insurance for risks that they do not want to, or cannot, cover. Sophisticated private entities will also find it difficult to prevail in claims of negligent misrepresentation, unless they can show that such misrepresentation induced them to enter into the contract in the first place. In contrast, because gross negligence involves a higher level of intent in the breach of duties that the state imposes on all private entities, the appeals court correctly held that liability for gross negligence can never be waived by contract. Finally, the Martin Marietta case shows that, unless Congress explicitly precludes or preempts state law, sophisticated private entities must carefully consider the implications of the applicable governing law of their contracts.

The Hughes Case or Implications for Space Commerce With the State

Unlike the Martin Marietta case, the Hughes case involved a contract between the state and a sophisticated private entity. In

this case, Hughes Communications Galaxy, Inc. (Hughes) had contracted with the U.S. government in 1985 for the launch of ten Hughes communications satellites from the Space Shuttle fleet by September 30, 1994. However, following the Challenger explosion in early 1986, the U.S. government changed its policy and announced that NASA would no longer launch commercial satellites. Hughes filed suit in the United States Claims Court (now the Court of Federal Claims),³³ claiming that NASA had breached the launch contract and had taken its contract rights in violation of the Fifth Amendment to the United States Constitution.³⁴

The Court of Federal Claims decision

The Court of Federal Claims granted the government's motion for summary judgment and held that Hughes could not recover damages under either of its claims.³⁵ The court first found the contract to be binding because Article I required the government to use its "best efforts" to launch the satellites.³⁶ Nevertheless, the court then held that the change in policy following the Challenger explosion was a valid sovereign act that was incorporated into the contract by Article XV.³⁷ Because NASA's refusal to launch the Hughes satellites was in accordance with the new policy, the court did not find a breach of contract. Furthermore, the court did not find any Fifth Amendment taking because the possibility of policy changes by sovereign acts operated to preclude Hughes from showing an identifiable property interest required for such a claim.³⁸

The Federal Circuit Court decision

Hughes appealed the case to the U.S. Court of Appeals for the Federal Circuit, which reversed the Court of Federal Claims decision on very narrow grounds.³⁹ The appeals court found that Article IV of the contract "unambiguously required the government to schedule launch services according to 'the United States policy governing launch assistance approved by the President of the United States on August 6, 1982.'"⁴⁰ Notwithstanding the general language of Article XV that anticipated potential policy changes, the appeals court held that "[w]here specific and general terms in a contract are in conflict, those which relate to a particular matter control over the more general language."⁴¹

The appeals court relied on the specific reference to the 1982 policy in Article IV to find that the government had waived its right in "unmistakable terms" to act as a sovereign with regard to launch priority and scheduling.⁴² In contrast to sovereign act defense cases where private parties have attempted to enjoin the government from exercising its sovereign power, "the present case simply involves the question of how liability for certain contingencies was allocated by the contract."⁴³ The appeals court noted that in situations such as fixed price contracts with price adjustment clauses the government routinely accepts financial responsibility for future events. "That some of these events may be triggered by sovereign government action does not render the relevant contractual provisions any less binding than those which contemplate third party acts, inclement weather and other force majeure."⁴⁴

Accordingly, the government had accepted financial responsi-

bility for any changes to launch priority and scheduling, which was controlled by the specific reference to the 1982 policy in Article IV of the contract. The appeals court highlighted the narrow scope of its ruling by stating that its "conclusion does not prevent the President or Congress from implementing space policy, but does require NASA, absent the assertion of another defense in this case, to bear the cost of changes in launch priority and scheduling resulting from the revised policy."⁴⁵ Because the appeals court was able to dispose of the Hughes case on such narrow grounds, it never reached the constitutional takings issue.

Implications of the Hughes case

The Hughes case has important implications for private entities that enter into contracts with the U.S. government. First and foremost is the recognition that the government has the sovereign right to change its policies, as long as such changes are properly authorized. While the Hughes case concerned a contract for the government launch of a commercial satellite -- an arrangement that the change of policy at issue has made obsolete -- the lessons are equally applicable to the more likely future situations involving commercial launches of government satellites. In such contracts, private entities may be faced with a change in government policy that leaves their launch vehicles without payloads for scheduled launches.

Although private entities cannot enjoin valid sovereign acts, they can ensure that the costs of any policy changes are borne by the government. The Hughes case shows that an ef-

fective way to create the stability and certainty desired by the insurance industry and investors is to incorporate relevant government policies explicitly into the contract. Then the costs associated with any policy change will be shifted onto the government.

Potential Conflict Between the Two Cases

There is at least one area of potential conflict between the Martin Marietta and Hughes cases. In the Martin Marietta case, the Fourth Circuit court held that a conflict between the specific relaunch contract remedy and the general damages provision rendered the contract ambiguous. On the other hand, the Federal Circuit court held that the specific reference to the 1982 policy controlled over the general subordination of the contract to unspecified U.S. policy. The U.S. Supreme Court could resolve this apparent conflict, however, absent such explicit authority, one still can distinguish the two cases.

The Federal Circuit court in the Hughes case correctly applied the judicial preference for the specific over the general. Nevertheless, the disposition of this issue in the Hughes case does not necessarily undermine the Fourth Circuit court's reasoning in the Martin Marietta case. The Hughes court was able to hold the 1982 policy controlling for purposes of launch priority and scheduling without rendering the general provision on U.S. policy superfluous and meaningless for other purposes. In contrast, the Martin Marietta court could not give effect to the "sole and exclusive" relaunch remedy without rendering superfluous and meaningless the general provision on damages for claims arising under contract. The language of the Martin

Marietta contract truly was ambiguous because there was no possibility to reconcile the conflicting remedy provisions.

Conclusions and Recommendations

Following the appeals court decision, Martin Marietta and INTELSAT reached a settlement in their dispute.⁴⁶ In addition to the prospect of ongoing litigation, another factor aiding the settlement effort was the April 1993 purchase by Martin Marietta of General Electric Co.'s aerospace division, which was already building the INTELSAT VIII series of satellites. According to an INTELSAT official, "[a]ll of a sudden the people we were in court with were also manufacturing a new series of satellites for us."⁴⁷ Under the settlement, INTELSAT will receive a discount on the price of the new satellites.

INTELSAT also realized that its dispute with Martin Marietta may have been avoided if it had not self-insured the INTELSAT VI satellite. For the INTELSAT VII series, INTELSAT has returned to the insurance market for the first time in 10 years, and has paid \$110 million in premiums.⁴⁸ Not surprisingly, space underwriters welcome new business from launches that were formerly self-insured. According to Frederick Hauck, president and CEO of U.S.-based International Technology Underwriters, "[a] major claim is absorbed more easily when spread among a larger number of insured events. Adding even a few more insured launches would contribute significantly to the space risk base."⁴⁹

The most obvious source of self-insured satellites that

could help diversify the space risk base is government agencies. Hauck pointed to the U.S. Navy UHF Follow-On program as a model. The contract specified satellite delivery on-orbit, so the contractor bears the launch risk. Such arrangements are likely to benefit taxpayers in the long run, even though the increased risk will be reflected in higher contract prices. The reason is that taxpayers are protected from absorbing the cost of catastrophic loss, regardless of whether the contractor self-insures or purchases insurance from a third party.

However, not all government spacecraft are appropriate for such contract provisions. For example, the Mars Observer probe was a specialized, one-of-a-kind spacecraft that would have been extremely difficult to insure. On the other hand, the loss of the Mars Observer supports the argument for smaller, cheaper, redundant, and more standardized spacecraft for both commercial and scientific applications.

In conclusion, the following recommendations are designed to facilitate the efficient operation of the space insurance market:

- 1) Risk managers must increase quality assurance to reduce technical risks;
- 2) Underwriters must distinguish risks to reward proven systems;
- 3) Operators that currently self-insure payloads must consider ways to involve the insurance market in spreading risk and lowering long-term costs;
- 4) Attorneys must draft clear and concise contracts that specify in unambiguous terms provisions such as on-orbit

delivery and relaunch requirements, and that specify applicable government policies; and

- 5) Courts must not shield private entities from liability for risks that can be allocated between the parties and/or spread to third party insurers.

Notes

1. See, e.g., "Proton Rocket Failure Raises Mobilesat Launch Concerns," Mobile Satellite News, June 9, 1993.
2. See, e.g., "Russia's Proton Rocket Chosen For INMARSAT III Launch," Mobile Satellite Reports, Nov. 23, 1992.
3. See, e.g., supra note 1.
4. Id.
5. Kurland, "The New Frontier of Aerospace Risks," Risk Management, Jan. 1993, at 33, 35.
6. Shapiro, "Buyers say satellite rates are out of sight," Business Insurance, March 22, 1993, at 3.
7. Id.
8. "Insurance Rates Continue to Soar for Satellite Launch Industry," Mobile Satellite News, March 3, 1993.
9. See, e.g., "Space market depressed," World Insurance Report, The Financial Times Ltd., Feb. 26, 1993.
10. For an overview of the different types of litigation, see Manuta, "Court-ning the courts: Lawsuits

- in the satellite communications service industry," Satellite Communications, July 1993, at 30.
11. Cassidy, "Allocation of Liabilities Between Government and Private Sector and Implications on Insurance for Space Commercialization," Proc. 33rd Colloq. L. Outer Space, at 23-29 (1990).
 12. Spradling, "The International Liability Ramifications of the U.S.' NAVSTAR Global Positioning System," Proc. 33rd Colloq. L. Outer Space, at 93-101 (1990).
 13. Sterns & Tennen, "Security Interests and Creditors' Remedies in the Law of Outer Space," Proc. 33rd Colloq. L. Outer Space, at 102-119 (1990).
 14. Meredith, "Risk Allocation Provisions in Commercial Launch Contracts," Proc. 34th Colloq. L. Outer Space, at 264-73 (1991).
 15. Bender, "The Developing U.S. Law of Liability Applicable to Launch Agreement Parties," Proc. 35th Colloq. L. Outer Space, at 13-26 (1992).
 16. Larsen, "Cross-Waivers of Liability," Proc. 35th Colloq. L. Outer Space, at 91-96 (1992).
 17. Masson-Zwaan, "The Martin Marietta Case or How to Safeguard Private Commercial Space Activities," Proc. 35th Colloq. L. Outer Space, at 239-47 (1992).
 18. Martin Marietta Corp. v. INTELSAT, 978 F.2d 140 (4th Cir. 1992).
 19. Hughes Communications Galaxy, Inc. v. United States, 998 F.2d 953 (Fed. Cir. 1993).
 20. Martin Marietta is based in Maryland and INTELSAT is based in Washington, D.C. Although the District of Columbia is not a state, it is treated as one for purposes of diversity jurisdiction by federal courts.
 21. Martin Marietta Corp. v. INTELSAT, 763 F. Supp. 1327 (D.Md. 1991).
 22. For a more thorough discussion of the facts of the case and the district court decisions, see Masson-Zwaan, "The Martin Marietta Case or How to Safeguard Private Commercial Space Activities," Proc. 35th Colloq. L. Outer Space, at 239-47 (1992).
 23. See 978 F.2d at 143-44.
 24. See id. at 142, citing Conley v. Gibson, 355 U.S. 41, 45-46 (1957) and Jenkins v. McKeithen, 395 U.S. 411, 421-22 (1969).
 25. See 978 F.2d at 143.
 26. Id. at 143.
 27. Id. at 144, citing 763 F. Supp. at 1332.
 28. Id. at 144, citing 763 F. Supp. at 1332-33.
 29. Id. at 144-45.
 30. Id. at 145.
 31. Id.
 32. Id. at 146.
 33. The United States Claims Court was a specialized federal court that heard

- claims involving the U.S. government that were governed by federal procurement law. The court was renamed the Court of Federal Claims on October 29, 1992. See Federal Courts Administration Act of 1992, Pub. L. No. 102-572, at § 902, 106 Stat. 4506, 4516 (1992).
34. The "takings" clause of the Fifth Amendment states that "nor shall private property be taken for public use, without just compensation."
35. See Hughes Communications Galaxy, Inc. v. United States, 26 Cl.Ct. 123 (1992).
36. Id. at 134.
37. See id. at 140. Article XV of the contract stated that "NASA shall provide Launch and Associated Services under this Agreement to the extent consistent with the United States' obligations (including any intergovernmental memorandum of understanding entered into by NASA and the Customer), United States' Law and United States' Published Policy."
38. See id. at 145.
39. Hughes Communications Galaxy, Inc. v. United States, 998 F.2d 953 (Fed. Cir. 1993). The Federal Circuit court is a specialized appeals court that reviews certain cases governed by federal law, including cases decided by the Court of Federal Claims.
40. Id. at 957, citing Article IV, ¶ 1.a, of the contract.
41. Id. at 958, citing Hills Materials Co. v. Rice, 982 F.2d 514, 517 (Fed. Cir. 1992).
42. See id. at 958 and cases cited therein.
43. Id. at 958.
44. Id. at 959.
45. Id.
46. See, e.g., Burgess, "Intelsat, Martin Marietta End Dispute Over Failed Launch," The Washington Post, June 12, 1993, at D6; and Souter, "Intelsat settles lawsuit over satellite launch," Business Insurance, June 21, 1993, at 62.
47. Id.
48. See Shapiro, supra note 6, at 13.
49. Hauck, "Facing the Consequences: Launch Failures Challenge the Insurance Industry," Space News, April 12-18, 1993, at 16.