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MILITARY USE OF COMMERCIAL COMMUNICATION SATELLITES: A NEW LOOK AT THE OUTER SPACE TREATY AND “PEACEFUL PURPOSES”

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WHEN THE HISTORY OF THE SPACE WAR COMES TO BE WRITTEN THE PART PLAYED BY THE COMMUNICATIONS MANAGERS IN THE U.S. CONTROL CENTRES WILL BE SEEN TO HAVE MADE A REMARKABLE AND DECISIVE CONTRIBUTION TO THE ALLIED WAR EFFORT.

The Third World War

INTRODUCTION

“IT'S THE FIRST space war,“ said a space policy analyst, referring to the Persian Gulf conflict.\(^1\) Senior U.S. Department of Defense (DoD) officials were expected to\(^2\) and did have a firsthand view of the fighting at the front, courtesy of INMARSAT\(^3\) communications satellites. The Gulf War heralded the beginning of yet another great era of the space age.\(^4\) Electronic still video photos taken by troops were transmitted, almost instantaneously, via portable satellite ground terminals to the Pentagon via the INMARSAT system.\(^5\) The rest of the world was able to observe the crisis on television via broadcast transmissions over the INTELSAT\(^6\) satellite system, which was “the primary pipeline for U.S. news broadcasts out of the Persian Gulf region . . . .”\(^7\) The United States DoD leased at least one of the six Ku-band transponders on the INTELSAT 5 satellite located over the Atlantic Ocean for its Gulf War communications needs.\(^8\)


\(^{3}\) International Maritime Satellite Organization (INMARSAT).

\(^{4}\) Walter D. Reed & Robert W. Norris, Military Use of the Space Shuttle, 13 AKRON L. REV. 665 (1979) (citing Remarks of President Carter at the Congressional Space Medals Awards Ceremony, 14 Weekly Comp. of Pres. Doc. 1686 (Oct. 1, 1978), wherein, referring to the U.S. Space Shuttle, he said, “The first great era of the space age is over . . . .”).

\(^{5}\) Kiernan & Sanders, supra note 2, at 17.

\(^{6}\) International Telecommunications Satellite Organization (INTELSAT).


\(^{8}\) Id. INTELSAT 5 was repositioned to meet the demand.
The Gulf Conflict was not only an early illustration of the "new world order," but it also vividly illustrated the significant and pivotal role played by military and civilian satellite communications systems in international crises. Just as Johann Gutenberg's invention of forms for movable type ushered in the Renaissance, the microprocessor, used in satellite communications, has brought about a new renaissance in communication.\(^9\) The Gulf Conflict marked an important turning point for Defense Ministries of major space powers. Finding less funding for military satellite programs, inadequacies in area coverage by military satellites, inadequate military satellite capacity, and more advanced commercial satellite applications, the Ministries are turning more and more toward satisfying their needs by obtaining commercial satellite service.

The purpose of this article is to explore the extent to which the U.S. military may use commercial satellite communications systems without violating international law. Although a number of global and regional systems will be mentioned, the primary focus of the article will be INMARSAT because of the unique limitations found in its Convention.\(^10\) This article also addresses limitations on provision of service to the military found in INTELSAT's Agreement\(^11\) as well as legal principles applicable to commercial communication satellite service providers in general.

International legal scholars disagree as to whether or not all military use of satellites is lawful under international law applicable to outer space. Some go so far as suggesting that certain nonmilitary uses of commercial satellites may be unlawful as well. At least one author has suggested that the

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\(^11\) Articles III(d) and (e) of the INTELSAT Convention proscribe the provision of "special services" to the military by the Organization. *International Telecommunications Satellite Organization Agreement, Feb. 12, 1973,* 23 U.S.T. 3813 [hereinafter INTELSAT Agreement].
lawfulness of military use of communications satellites is not open to question. The debate, which has not been resolved and may never be, primarily revolves around whether or not military use of satellites violates the 1967 Outer Space Treaty provisions dealing with the use of outer space or celestial bodies for "peaceful purposes." The concept of using common areas for peaceful purposes and the "peaceful purposes" language itself is found in many treaties, conventions and United Nations resolutions related to the earth and outer space. Article IV of the Outer Space Treaty states:

States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purpose shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited.13

Although not much has been written on the subject in the past dozen years, the great debate over the interpretation of the Outer Space Treaty's words "peaceful purposes" has yielded numerous definitions, ranging from the idea that any military use of satellites is "nonpeaceful" to the notion that only "aggressive" use of satellites is nonpeaceful and therefore impermissible. The thesis of this Article is that neither of those interpretations reflect the true state of international law applicable to outer space today. The concept and applicability of the "peaceful purposes"

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13 Id. at art. IV.
proscription is much more fluid or malleable than those definitions would suggest. This interpretation is equally applicable to the “peaceful purposes” clause of Article 3(3) of the INMARSAT Convention.14

Scholars have also argued for years over the extent of the applicability of the “peaceful purposes” language; does it apply just to the moon and celestial bodies or to outer space as well? I believe that, as of 1994, the matter of the scope of the applicability of the concept has been settled. Support for the conclusion that current international law requires all of outer space to be used for “peaceful purposes” is compelling.

Finally, the obligations that nations have assumed, under the Charter of the United Nations, play a pivotal role in setting the parameters of the peaceful uses of outer space and in validating some military uses which might not otherwise be considered “peaceful.”

This Article is divided into five parts:

Part I discusses defense policies, military communications satellite usage (in general and during illustrative regional conflicts), present military (communication) satellite programs, communications services offered by commercial and regional satellite organizations (focusing on INTELSAT and INMARSAT) and the DoD’s shift toward obtaining commercial satellite communications services. The emphasis is on U.S. programs since they are the most widely publicized and open.

Part II examines INMARSAT’s history and structure in depth, including an analysis of the INMARSAT Convention with particular reference to its travaux preparatoires. INTELSAT’s Convention and structure is discussed as well as the relationship of the U.S. Communications Satellite Organization (COMSAT)15 to both INTELSAT and INMARSAT. The views of those organizations concerning military usage

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14 Article 3(3) of the INMARSAT Convention states, “[T]he Organization shall act exclusively for peaceful purposes.” INMARSAT Convention.

15 COMSAT was created by the U.S. Congress by the Communications Satellite Act of 1962, Pub. L. No. 87-624, 76 Stat. 419 (codified at 47 U.S.C. § 701 (1988)).
of their systems is set forth. Finally, the U.S. State Department's and the U.S. Military's view of INTELSAT & INMARSAT usage is described.

Part III addresses the applicability of pertinent provisions of the 1967 Outer Space Treaty with some discussion of other applicable international legal regimes, including various space treaties and United Nation's resolutions. The focus is on Article IV of the Outer Space Treaty. Part III deals with the definition of use of space for "peaceful purposes" and the issues of whether the requirement of use of space for "peaceful purposes" applies to "outer space" and if so, who is responsible for outer space activities.

Part IV deals with the concept of "peace." What is "peace?" What is the meaning of the language "peaceful purposes" found in the Outer Space Treaty, and what is the extent of its applicability? Part IV discusses permissible uses of outer space under the United Nations Charter, such as for self-defense and peace-keeping. Part IV concludes with a review of the impact of Customary International Law on the issue of the use of outer space for "peaceful purposes."

Part V sets forth an assessment of the various interpretations given the terms "use of space for peaceful purposes." It discusses the application of the concept. Is there a need to change the INMARSAT or INTELSAT Conventions? Are those Conventions and the Outer Space Treaty being violated? Part V concludes with a summary regarding the definition and application of the requirement of using space for "peaceful purposes."

PART I. MILITARY SATELLITE USAGE

"The militarization of space has become an accomplished fact . . . ."16

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A. Military Satellite Usage by Illustrative Countries

"Outer space has achieved the dubious distinction of being the most heavily militarized environment accessible to humans."[17] "[W]ithout satellites, performance of many military missions would become impossible, and performance of others would require large increase[s] in the unit strengths of various U.S. force elements."[18] In July 1989, the former Chief of the Soviet General Staff, declared that "Soviet military space activities will help to enhance by up to 100 percent the combat efficiency of the Soviet armed forces."[19]

1. Defense Policies

It is particularly apropos to discuss military satellite usage in light of recently announced rearticulations of both United States and Russian strategic military doctrine. The new, more assertive, Russian doctrine rejects the Soviet Union's earlier position that it would never use nuclear weapons in a first strike and sanctions the use of its troops beyond Russia's borders to protect "national interests."[20]

The emerging U.S. post-Cold War doctrine is one of "enlargement" which seeks to increase the number of democratically-elected governments world wide and supports U.S. unilateral, decisive, military intervention when other nations directly threaten U.S. citizens, U.S. forces, or U.S. vital interests.[21] Former U.S. Secretary of Defense, Les As-

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[17] Id. This statement is based on the number of military and civilian payloads launched into orbit.


pin, called the new policy a “shift from a defensive strategy to a much more positive strategy of encouraging American values.” The new U.S. posture calls for forces, twelve aircraft carriers, ten Army divisions, and twenty air wings, which should be sufficient to fight two major wars simultaneously. National Security Advisor Anthony Lake added, however, that the U.S. prefers to operate in cooperation with other states or the United Nations.

In a study conducted for the U.S. Army, Rand concluded that the Army’s roles and missions were likely to increasingly involve the rapid deployment of small, U.S.-based, units to unpredictable environments. These missions will require the use of satellite communications because of the often lacking communications infrastructures and the need to operate independently.

Similarly, the North Atlantic Treaty Organization (NATO) is re-evaluating its military doctrine. In September 1993, NATO parliamentarians from Canada, Germany, Denmark and other countries recommended, in a radical shift in policy, that NATO unilaterally undertake “peacekeeping” operations when the United Nations or the Conference on Security and Cooperation In Europe (CSCE) fails to act. NATO officials believe that Article 51 of the United Nations Charter allows a group of nations or a single nation to come to the aid of another UN mem-

thur Lake, at the Johns Hopkins University School of Advanced International Studies, on Sept. 21, 1993, and a speech by Secretary of State Warren Christopher at Columbia University, Sept. 20, 1993. The strategy, formally adopted in the Pentagon’s Defense Planning Guidance and Presidential Review Decision 13, was announced to the United Nations in a speech by President Clinton, on Sept. 27, 1993.

\[22\] Id. at 37.

\[23\] Id.

\[24\] Id. at 1.


ber nation, even absent a UN Security Council mandate. More specifically, NATO strategists foresee missions calling for highly mobile reaction forces rapidly deployable into any potential conflict with mobile systems blending commercial and military space-based communications. "Satellite communications will continue to play the major role on connectivity with crisis areas." According to NATO officials, deficiencies in its information systems capabilities would be cause for a veto over proposed military actions.

2. Country-by-Country Usage

As of 1989, at least fifty countries used satellites they owned for some or all of their telecommunications and broadcasting needs. In addition to the U.S. and Russia, a number of countries and regional organizations, such as NATO, utilize both military and commercial satellites for military purposes. The French, for example, use France's TELECOM satellites, which have a military communications payload, to communicate with their overseas territories. The Japanese Self-Defense Forces are the primary users of INMARSAT satellite services and ground stations purchased by Kokusai Denshin Denwa (KDD). Iraq utilized INTELSAT services. Spain's Centro Superior de Informacion de

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28 RKA, Communications Systems Form Core of Alliance Identity, NATO's Military Capabilities Increasingly Will Be Defined By Its Information Resources Infrastructure, SIGNAL, October 1993, at 51.
29 Id.
30 Id. at 52.
31 Id. at 51.
35 Kathleen Killette, Iraq Net Critical, COMM. WEEK, Jan. 21, 1991, at 60. Iraq used two INTELSAT satellites and owned an earth station prior to the Gulf Conflict. In
la Defensa (CESID) set aside approximately $200 million in 1988 to procure the use of commercial satellite services, such as INTELSAT, ARABSAT and EUTELSAT, as well as to participate in the French Helios military satellite program. Spain’s Hispasat satellite system’s military mission includes a global coverage antenna and will support its land and naval forces in Europe, North Africa, and adjacent ocean areas. The United Kingdom has its military SKYNET-IV satellite system. NATO utilizes its NATO series of satellites for military communications.

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France and Russia have registered the following satellites as using the C-band in geosynchronous orbit (GSO) for “government” purposes: France’s TELECOM series and Russia’s Raguda series, Prognoz series, and Gorizont series. The term “government use” is not further defined. Other governments and organizations have registered such GSO satellites using the C-band under functional categories, such as maritime, meteorological, tracking, weather, experimental, broadcasting, diplomatic, regional coverage, and international fixed service. It is thus difficult to ascertain from the registries whether the satellites so registered are being used for military purposes.

The following countries and organizations all have communications satellites in orbit: U.S. (military satellites, TDRSS, Marisat and US domestic satellites), Russia (mili-

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1988, Iraq’s communications purchases were expected to reach $550 million by the year 2000, according to the article.

37 Martin, supra note 33, at 237-238.
38 The British SKYNET military communications satellites were first launched in 1969-70. They have some degree of interoperability with U.S. systems. Martin, supra note 33, at 102-03. The UK is presently using the SKYNET IV series which covers an area from Turkey, the North African Mediterranean coast, Norway, most of Western Europe and reaches the U.S. East Coast. It provides the capability to communicate with submarines and land mobile units and aircraft. Id. at 116.
39 Id. at 99-100, 105. The first NATO IV-A was successfully launched in Jan. 1991. Id. at 118. Another NATO IV satellite is scheduled to be launched in late 1993-early 1994. These satellites are identical and have the same capabilities as the British SKYNET 4 satellites. Id. at 118.
41 Id.
tary, government, and other satellites), Canada (Anik, Satcom series, and MSAT), Argentina (Nahuel II), Indonesia (Palapa series), U.K., France, Italy (Italsat), Japan (N-Star series, Sakura series), India (Insat series), China (PRC and DFH series), Cuba (STSC-1), Brazil (Brazilsat series), Mexico (Solidaridad series), Australia, Spain (Hispasat), Malaysia (Measat), Seychelles (Seysat), Malta (Melitsat), Tonga (Tongasat), Finland (Finasat), New Guinea (Pacstar series), EUTELSAT, ASETA (Association of Telecommunications State Enterprises of the Sub-Regional Andean Agreement comprised of Bolivia, Columbia, Ecuador, Peru, and Venezuela) (Simon Bolivar series), Arabsat, Asiasat (Asiasat series), COMSAT (Comstar series), INTELSAT, and INMARSAT. Once again, it is difficult to ascertain which of these satellite systems may have military applications.

3. United States Military Satellites

Military use of outer space is fundamental to U.S. national security. Numerous space systems, such as those for navigation, weather forecasting, communications, mapping, geodetic measurement, nuclear explosion detection and monitoring, ballistic missile early warning, photo reconnaissance and surveillance, are considered "force multipliers" which support and enhance military operations.

Military communications satellite usage generally falls into three categories: (1) command and control of strategic forces; (2) secure voice and wideband, high capacity communications supporting the intelligence community, major headquarters, and the National Command Authority; and,

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42 The Brazilian military has two channels on Brazilsat-1 and will obtain another on Brazilsat-3. It decided to obtain a satellite system after neither Brazil, Argentina, nor Uruguay could intercept British satellite traffic during the Falklands/Malvinas conflict in 1982. See JANE'S MILITARY COMMUNICATIONS 304 (13th ed. 1992).

43 Morgan, supra note 40; Martin, supra note 33, at x.

44 Reed & Norris, supra note 4, at 666.

45 Id.
(3) beyond-the-horizon communications between mobile forces and their command structure.  

The U.S. has, among others, the following military communication satellite systems:

DSCS II and III. The primary users of the constellation of 21 Defense Satellite Communications System (DSCS) satellites are the Worldwide Military Command and Control System, ground mobile forces, Navy ships, the White House, and the DoD's AUTODIN (dedicated data transmission network) and DSN (DoD's dedicated voice network). A majority of DSCS terminals are small, transportable or shipboard models.

MILSTAR. The MILSTAR system provides high capacity secret communications service for strategic and mobile military forces through a constellation of seven survivable, hardened, satellites.

FLTSATCOM. FLTSATCOM serves primarily the global tactical needs of Navy surface ships, submarines, aircraft, and shore stations. The Air Force shares these satellites with the Navy and uses their capability (AFSATCOM) for strategic aircraft, airborne command posts, and ground terminals. (The Marisat satellite system, developed by COMSAT, provided service to the Navy before the introduction of FLTSATCOM. It also provided service for commercial shippers. The last one was launched in 1976 and had a five-year life expectancy).

TACSAT. Tacsat was designed to operate with small mobile, shipboard, or airborne terminals. It was used extensively by the military and is no longer in operation.

IDCSP. The Initial and Advanced Defense Communication Satellite Program (IDCS and ADCSP) were older sys-

46 Id. at 666-67.
47 Martin, supra note 33, at x.
48 Martin, supra note 33, at x. Neil P. Munro, Polar Satellites May Face Delays, AIR FORCE TIMES, Nov. 8, 1993. Legislation was introduced in the U.S. Congress in April 1994 to terminate Milstar. The first Milstar satellite was launched in February 1994; a second is scheduled for launch in 1995. Jim Garamone, Milstar is Key to Tactical Communications, INTERCOM MAG., July 1994, at 7.
49 Martin, supra note 33, at 98.
tems used extensively for high speed data relay and should no longer be in operation.\textsuperscript{50}

UFO. The eight Ultra High Frequency (UHF) Follow-On (UFO) system will provide replacements for FLTSATCOM and Leasat services.

LEASAT. The Leasat system supplements FLTSATCOM. Leasat serves both the Navy, ground mobile forces and the US Air Force.

NAVSTAR. The Navstar series is designed for precision global positioning service (GPS) and navigation. The twenty-third Navstar satellite was successfully placed in orbit in late 1993;\textsuperscript{51} the system became fully operational at that time.\textsuperscript{52} Navstar may also be used by civilians.\textsuperscript{53} This Global Positioning System network will be a constellation of twenty-four satellites operated by the US Air Force, about 12,000 miles above the Earth, that sends location information to ships, aircraft and vehicles.\textsuperscript{54} The U.S. Air Force is testing technology (Project Talon Zebra) which will incorporate Navstar GPS data into intelligence networks, F-117 aircraft and guided weapons. The Air Force expects that by the year 2000 all Air Force F-16 fighter aircraft will be outfitted with GPS receivers to enable them to track their positions within a few meters.\textsuperscript{55}

FEWS. Recently, the DoD announced plans to scrap the Follow-on Early Warning (FEWS) System which replaced the Defense Support Program (DSP) satellite series. DSP satellites same missile launch detection function DoD is scrapping the FEWS because of funding shortfalls and ap-

\textsuperscript{50} Martin, supra note 33, at 96.
\textsuperscript{52} Lisa Burgess & Neil Munro, GPS: Navigating the Future, New Uses for GPS Challenge Pentagon, Def. News, Nov. 29, 1993, at 8 & 10. The GPS satellites emit two types of positioning signals: one, a coded highly accurate one for U.S. military use; and, a less accurate one for commercial use.
pears to have chosen to go with a low-cost system for launch in the year 2006.\(^\text{56}\)

POLAR ADJUNCT. This multi-military service series was designed to supplement MILSTAR with the ability to provide secret communications to ships, aircraft, and submarines near the North Pole, where such service is sparse. This service appears on its way toward cancellation due to budgetary cutbacks.\(^\text{57}\)

4. Former Soviet Union’s Military Satellites

The former Soviet Union has identified several of its satellite systems\(^\text{58}\) which may or may not be used for military purposes:

Molniya 1, 2, 3. The Molniya (Lightning) series of communications satellites were used for domestic and international telephone and television communications by the military and government.\(^\text{59}\) The over 100 Molniyas launched between 1965 and 1985 were used primarily for military communications.\(^\text{60}\)

The Statsionar series (Raguda, Ekran, Gorizont). The Statsionar T series was designed to broadcast television to the northern and Asian regions of the USSR.\(^\text{61}\) The Statsionar system, however, has global coverage and the capacity to provide telephony and telegraphy.\(^\text{62}\) The announced purpose of the Gorizont was television relay.\(^\text{63}\)

Luch. The Luch is intended for domestic and international commercial communications. It is probably used for both government and military purposes.\(^\text{64}\)


\(^{57}\) Neil P. Munro, Polar Satellites May Face Delays, AIR FORCE TIMES, Nov. 8, 1993, at 32.

\(^{58}\) Id.

\(^{59}\) Id.

\(^{60}\) Id. at 125.

\(^{61}\) Id. at 126.

\(^{62}\) Id. at 127.

\(^{63}\) Id. at 127.

\(^{64}\) Id.
Gals. Gals (Tack) is intended for government and military use.65

Volna. Volna (Wave) is a system for mobile communications used exclusively by the Soviet Union.66

Raguda. Raguda (Rainbow) is presumed to be a GSO military/government communications satellite similar to the Statsionar series.67

Morya. Morya (Seaman) is a system for maritime satellite communications.68

Glonass. Glonass is Russia’s global positioning satellite with functions similar to the U.S. NAVSTAR system. Like NAVSTAR, it is a weapons guidance system controlled by the military.69

B. COMMERCIAL COMMUNICATIONS SATELLITE SERVICES

I. INTELSAT Services

INTELSAT, an international treaty organization with over 125 member countries,70 provides global telecommunications services of every type through its global satellite capabilities. Member countries are the “Parties.” Each member country designates its “Signatory,” or representative, before the organization. Some countries have designated their Postal, Telephone and Telegraph organizations (PTTs); the U.S. has legislation appointing COMSAT as its Signatory. Non-member countries may utilize INTELSAT services as well.71 Historically, the Signatories were INTELSAT’s customers; however, as of March 1993, INTELSAT Signatories could permit INTELSAT to deal directly with

65 Martin, supra note 33, at 129.
66 Id.
67 Id.
68 Id.
70 In addition to the major space powers, its members include Argentina, Croatia, Haiti, Iran, Iraq, Kuwait, Libya, Panama, Somalia, and Yugoslavia. See 1992 INTELSAT ANN. REP. COMSAT’s 1992 Annual Report states INTELSAT has 125 members.
71 Rees, supra note 32, at 31.
non-signatory entities. All INTELSAT users are charged the same rate for similar service.

INTELSAT was the first commercial supplier of satellite communications services, beginning service in 1965. Historically, INTELSAT provided service to and from fixed locations. INTELSAT provides four basic services: public switched network services from which it derives over 50% of its yearly revenue; private network services (about 8% of revenues); broadcasting services (12.5% of its revenue); and domestic/regional services (about 7.5% of its revenue). INTELSAT satellites have two functions. First, the primary satellite in each ocean region provides basic connectivity to all nations in the region; the primary is supplemented by a spare used for preemptible services. Secondly, other satellites provide specialized services, such as bundling major path communications so as to alleviate traffic on the primary satellite, business communications to small antennas, cable restoration, and domestic leased services.

INTELSAT officials say "the long-term reliability of satellite communications has never been better, with a 99.99% continuous service rate."

In addition to video teleconferencing (VTC), and carriage of broadcast television, the INTELSAT International Business Service (IBS) and INTELNET services should interest most prospective military users. IBS carries VTC, high and low-speed data, facsimile, packet switching, non-public switched telephony, and electronic mail, at speeds ranging from 64 Kbps to 8.448 Mbps. INTELNET is a data service.

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72 1992 INTELSAT ANN. REP. 14. It is unlikely COMSAT, the U.S. Signatory would have either the authority or inclination to permit direct dealings between INTELSAT and other US entities. The approval of the Federal Communications Commission (FCC) would be required in any case. As of the writing of this Article this subject has not been opened on the FCC docket.

73 REES, supra note 32, at 33.

74 Id. at 29.


76 Martin, supra note 33, at 77.


78 REES, supra note 32, at 53.
broadcast and collection service from small earth stations introduced in 1984.\textsuperscript{79}

INTELSAT successfully deployed the INTELSAT 603 and INTELSAT K satellites in 1992. It has an additional ten satellites on order and has an agreement with Russia to use three of the latter's INFORMKOSMOS\textsuperscript{80} for additional leased capacity.\textsuperscript{81} It has over 300 authorized customers globally, more of which are non-Signatory customers than Signatory customers.\textsuperscript{82} INTELSAT serves over 180 countries, territories and dependencies with its fleet of twenty satellites and has connectivity to more than 2700 earth station-to-earth station satellite communication links.\textsuperscript{83} INTELSAT is considering procuring and operating new K-band spacecraft as well as evaluating Landmass satellites not presently offered by INTELSAT to augment existing capability.\textsuperscript{84}

In October 1993, INTELSAT successfully launched the first of its INTELSAT VII\textsuperscript{85} (No. 701) satellite series and plans the next launch in March 1994.\textsuperscript{86} The INTELSAT VII will provide new and additional capacity for the Asia-Pacific region.\textsuperscript{87} It has the capacity for 18,000 two-way voice circuits (90,000 with full use of digital circuit multiplication techniques) and three television transmissions.\textsuperscript{88} The more powerful INTELSAT VII will permit use of smaller earth stations than the 5-30 meter antennae previously required.\textsuperscript{89}

\textsuperscript{79} Id. at 54-55.
\textsuperscript{80} INFORMKOSMOS was created by the Russian Federation to "design, control, manufacture, own and finance the Express Satellite series." 1992 INTELSAT ANN. REP. 7.
\textsuperscript{81} 1992 INTELSAT ANN. REP. 70.
\textsuperscript{82} Id.
\textsuperscript{83} Id.
\textsuperscript{84} 1992 INTELSAT ANN. REP. 16.
\textsuperscript{85} Unlike its predecessors, INTELSAT VIIIs will have "steerable" C-band spot beams which are capable of being redirected. Ku-band beams are all steerable. C-band coverage is generally the broadest, e.g., global or hemispheric coverage. Ku-band coverage is limited to spot beams. DCA Draft, supra note 33, at 2-60. This is significant in that spot beams are traditionally utilized for mobile services, such as those provided by INMARSAT.
\textsuperscript{86} 1992 INTELSAT ANN. REP. 15.
\textsuperscript{87} Id.
\textsuperscript{88} Id.
\textsuperscript{89} Martin, supra note 33, at 78.
\textsuperscript{89} REES, supra note 32, at 49.
The single INTELSAT K satellite began service in the Atlantic Ocean region (AOR) in 1992, providing Ku-Band service which, among other capabilities, allows direct-to-home satellite broadcasting, voice and data transmission and videoconferencing over the ocean and between Europe and Latin America. INTELSAT-K has the capacity to handle 65,000 voice circuits (using digital circuit multiplication) or 32 TV transmissions.

The fifteen INTELSAT VI satellites have a capacity of carrying approximately 24,000 two-way voice circuits (more with digitization) plus three TV transmissions. There were eight INTELSAT V satellites in operation at the end of 1990, each with capacity for 12,000 two-way voice circuits plus two television transmissions. In the late 1970's, INTELSAT added a maritime communications subsystem to some of the INTELSAT V satellites which provide ship to shore and shore to ship communications. At the end of 1991, INTELSAT had five INTELSAT V-A satellites in operation.

The INTELSAT satellites previously in operation, the INTELSAT-I (Early Bird), II, III, IV, IV-A are no longer operational. Each successive INTELSAT satellite series has had to develop new techniques to take advantage of the additional capacity the latest technology offers. For example, Early Bird had the capacity for only 60-124 circuits per day compared to INTELSAT VII's 90,000.

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90 Martin, supra note 33, at 74.
92 Martin, supra note 33, at 74.
93 Id. at 67.
94 Id. at 57, 60.
95 Id.
96 Martin, supra note 33, at 74.
97 Id. at 47-56.
98 Rees, supra note 32, at 35.
2. **INMARSAT Services**

Like INTELSAT, INMARSAT is a 72-nation international organization that provides global satellite telecommunications services, primarily to the maritime community, through the "Signatories" designated by its "Parties." Although maritime services is its biggest revenue source (totalling 78% in 1991), INMARSAT now offers both land mobile and aeronautical services.

INMARSAT operates through a system of forty-two Land Earth Stations that includes thirty-two Coastal Earth Stations (maritime services) and ten Ground Earth Stations (aeronautical services), coupled with a fleet of seventeen satellites providing nearly complete global coverage. INMARSAT's four operating regions include the Pacific Ocean Region (POR), the Indian Ocean Region (IOR), the Atlantic Ocean Region (AOR), and the Atlantic Ocean Region-West (AOR-W). Most of its remaining first generation satellites were shifted to spare or standby status in 1991. By January 1992, INMARSAT had placed all four of its INMARSAT-2 satellites into operation.

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100 1991 INMARSAT ANN REP. Land mobile services generated about 21.9% of INMARSAT's 1991 revenues. Aeronautical services accounted for 0.1%.

101 Id. According to its Annual Report, INMARSAT had total revenues of $261.3 million in 1991, a 44% increase over 1990. In 1991, INMARSAT exceeded its Signatory-return on capital requirement.

102 1991 INMARSAT ANN REP.

103 Id. A MARISAT satellite which had been a "backup" was used in 1991 to provide temporary service over the Pacific Ocean Region (POR).

104 1991 INMARSAT ANN REP.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Capability</th>
<th>Customer</th>
<th>Service</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>INMARSAT A</td>
<td>HIGH/LOW SPEED DATA; FAX; TELEPHONE; TELEX (point to multipoint data transmission)</td>
<td>MARITIME &amp; LAND TRANSPORTABLE (Can be used with GPS or GLONASS for positioning).</td>
<td>FULL SERVICE, HIGH QUALITY TERMINAL 56-64 Kbps</td>
<td>1982</td>
</tr>
<tr>
<td>INMARSAT C (Via Inmarsat-3 satellites with global beams and 5 spot beams)</td>
<td>LOW SPEED DATA &amp; TELEX. Point to multipoint data transmissions (EGC feature).</td>
<td>MARITIME &amp; LAND MOBILE</td>
<td>LOW-COST PORTABLE. Meteorological observation; ship reporting service; update electronic charts; automatic positioning (600 bps)</td>
<td>1990</td>
</tr>
<tr>
<td>INMARSAT AERO-L</td>
<td>LOW SPEED DATA</td>
<td>AERONAUTICAL</td>
<td>COMMERCIAL, BUSINESS &amp; PRIVATE</td>
<td>1990</td>
</tr>
<tr>
<td>INMARSAT AERO-H</td>
<td>HIGH SPEED DATA; FAX; TELEPHONE</td>
<td>AERONAUTICAL</td>
<td>COMMERCIAL &amp; LARGER BUSINESS AIRPLANES</td>
<td>1990</td>
</tr>
<tr>
<td>INMARSAT B (Inmarsat-3)</td>
<td>SAME AS &quot;A&quot;</td>
<td>MARITIME &amp; LAND TRANSPORTABLE</td>
<td>FULL SERVICE, HIGH QUALITY DIGITAL TERMINAL (9.6 Kbps fax/data)</td>
<td>1992</td>
</tr>
</tbody>
</table>

105 *Id.* at 5.

106 INMARSAT provides data rates of less than or equal to 64 Kbps and voice rates up to 9.6 Kbps. DCA Draft, supra note 33, at 2-7.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Capability</th>
<th>Customer</th>
<th>Service</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>INMARSAT M</td>
<td>HIGH SPEED DATA; FAX; TELEPHONE</td>
<td>MARITIME; MARITIME; LAND MOBILE; PERSONAL</td>
<td>MEDIUM QUALITY; LOWER-COST; DIGITAL; PORTABLE (2400 bps fax/data)</td>
<td>1992</td>
</tr>
<tr>
<td>(Successor to INMARSAT A) (Via Inmarsat-3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INMARSAT E</td>
<td>SAME AS &quot;A&quot;</td>
<td>MARITIME</td>
<td>INSTANT MARITIME DISTRESS ALERTING</td>
<td>1992</td>
</tr>
<tr>
<td>INMARSAT Paging</td>
<td>LOW SPEED DATA</td>
<td>PERSONAL</td>
<td>POCKET-SIZE, GLOBAL PAGING</td>
<td>1994</td>
</tr>
<tr>
<td>INMARSAT Navigation</td>
<td>SAME AS &quot;A&quot;</td>
<td>MARITIME; AERONAUTICAL; LAND MOBILE; PERSONAL</td>
<td>NAVIGATION</td>
<td>MID-1990'S</td>
</tr>
<tr>
<td>INMARSAT P Project 21</td>
<td>FAX/TELEPHONE</td>
<td>PERSONAL</td>
<td>HAND-HELD LOW COST GLOBAL TELEPHONE</td>
<td>2000</td>
</tr>
</tbody>
</table>

INMARSAT plans to begin launching its four INMARSAT-3 series in 1994/1995. The INMARSAT-3 will have a global beam and five spot beams and will support smaller, less costly, mobile-satellite terminals which will permit direct mobile-to-mobile communications via the satellites. More significantly, the INMARSAT-3's will have the navigation payload needed to develop an international civil complement to the U.S. GPS and Russian GLONASS navigation systems. INMARSAT sees INMARSAT-3 as the vehicle for transition from the national GPS and GLONASS systems to an international system.

By the end of 1991, over 100 commercial and corporate aircraft were using INMARSAT’s Aeronautical services, and

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107 1991 INMARSAT ANN REP.
108 Id.
109 Id.
110 Id. at 24.
over 12,875 INMARSAT A Ship Earth Stations had been commissioned.\textsuperscript{111} Three consortia of INMARSAT Signatories were providing world-wide voice and data communications by the end of 1991.\textsuperscript{112} The International Agreement on the Use of INMARSAT Ship Earth Stations in the Territorial Seas and Ports was signed by thirty-four member countries and entered into force on December 12, 1993. It permits continuous mobile satellite services by ships in national waters.\textsuperscript{113}

According to INMARSAT, "a major benefit of satellite communications is in automatic dependent surveillance (ADS) for continuously monitoring aircraft positions . . . reducing aircraft separation in oceanic airspace and permitting greater route flexibility."\textsuperscript{114} INMARSAT is working with the International Civil Aviation Organization (ICAO) to develop a future communications, navigation and surveillance concept relying on satellite communications.\textsuperscript{115}

INMARSAT says land mobile communications is its fastest growing market with over 4,339 land-based INMARSAT-A and INMARSAT-C portable terminals deployed as of the end of 1991.\textsuperscript{116} Amendments to INMARSAT's Convention and Operating Agreement to permit it to provide land mobile services had been approved by twenty-six Parties and Signatories as of August, 1994.\textsuperscript{117} INMARSAT-A terminals are 30-35 Kg, can be packed in suitcases, are usable any-

\textsuperscript{111} \textit{Id.} COMSAT reported more than a dozen airlines (and 120 aircraft) were using INMARSAT Aeronautical services in 1993. \textit{The Mobile Satellite Communications Revolution}, COMSAT Mobile Communications 12 (1993).

\textsuperscript{112} 1991 INMARSAT Ann Rep. The three consortia are: Skyphone (UK, Norway, Singapore); Satellite Aircom (Canada, France, Australia, & USA-based IDB-Aeronautical & the Societe' Internationale des Telecommunications Aeronautiques (SITA); and GLOBALink (U.S. and Japan).

\textsuperscript{113} INMARSAT Message (August 1994).


\textsuperscript{115} \textit{Id.}

\textsuperscript{116} \textit{Id.} at 21. There were 2,539 INMARSAT-C terminals commissioned by Dec. 1991, with 953 for use on land and 1,586 at sea. COMSAT reports that INMARSAT "serves more than 20,000 mobile terminals on the land, sea, and in the air." Brochure, COMSAT Aeronautical Services, Global Coverage. As of August 1994, INMARSAT reported the following total commissions: INMARSAT-A 23, 702; INMARSAT-B 60; INMARSAT-C 12, 133; INMARSAT-M 2043.

\textsuperscript{117} INMARSAT Message (August 1994).
where, and provide voice, data, facsimile, and telex service. They are particularly useful in remote areas not served by a telecommunications infrastructure. INMARSAT-C enables travellers to communicate world-wide by portable computer. INMARSAT-C, when integrated with a GPS receiver, has the capability of providing both positioning and communications.

3. Regional Commercial Satellite Services

In addition to INTELSAT, INMARSAT, and NATO, there are a number of regional satellite communications organizations, including EUTELSAT, INTERSPUTNIK, ASIASAT, ASETA, RASCOM and ARABSAT. Three are described briefly:

EUTELSAT (The European Telecommunications Satellite Organization) is the largest global, international telecommunications satellite system after INTELSAT and INMARSAT. Like INTELSAT and INMARSAT it is governed by two international agreements.

INTERSPUTNIK originated in 1974 and had sixteen members, primarily the former Eastern-Bloc nations and nations aligned with them. It provided television, telephony, and telegraphy service. In addition to including some of the satellites listed above, INTERSPUTNIK planned on launching a new series of eight TOR satellites in the 1990's to provide global service comparable to that of INTELSAT and INMARSAT.

ASIASAT is owned by China, a Hong Kong trading conglomerate, and a large telecommunications company. ASIASAT's one satellite was launched in 1990 by China and was expected to operate for ten years. It is used for domes-

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119 Id. at 22.
120 Morgan, supra note 40.
121 Rees, supra note 92, at 63.
122 Id.
123 Id. at 55. Non-Eastern Bloc users included Algeria, Iraq, Libya, Israel, U.S. and Syria.
124 Id. at 57.
tic communications by Thailand, South Korea, Burma, Mongolia, China, and Hong Kong. Nepal, Bangladesh and Pakistan are also users. ASIASAT provides basic telephone service, television distribution and international business data transmission. ASIASAT plans the launch of a second satellite in 1993 or 1994.\textsuperscript{125}

It is possible that at least one or more of these regional systems has permitted military use of its satellite capabilities; however, a closer examination of these systems and their usage must be left for another day.

4. Other Commercial Satellite Services

The list of commercial satellite service providers includes: PanAmSat, Shinawatra Sat. Co., APT Sat. Co. Ltd., TRW, Hughes Galaxy, Embratel, Columbia Communications,\textsuperscript{126} COMSAT, GE Americom, AT&T Comm., GTE Spacenet, American Satellite Corporation (ASC), Orion Satellite Corporation, Qualcomm, Loral Systems (formerly Ford Aerospace), Starsys Global Positioning, Inc., Orbital Communications Corp., Teledesic, and Alascom.\textsuperscript{127}

As the United States Signatory to both the INTELSAT and INMARSAT organizations, COMSAT offers the full range of services offered by those organizations in addition to various enhancements of those services. COMSAT is the largest user of INTELSAT and INMARSAT services and holds the largest "ownership" share in those organiza-

\textsuperscript{125} Martin, \textit{supra} note 33, at 69-70.

\textsuperscript{126} MCI and Columbia Communications were awarded a $100 million DoD contract to construct a telecommunications network in the Pacific. Columbia will carry voice and data between Korea, Guam, Hawaii, Japan, Okinawa, and the U.S. See David Hartshorn, \textit{The Best Offense is a Good Defense . . . Market, Satellite Comm.}, Nov. 1992, at 42-3.

\textsuperscript{127} Morgan, \textit{supra} note 40; \textit{Telecommunications Rep.}, Mar. 28, 1994, at 6.
tions.\textsuperscript{128} COMSAT is a $564 million per year business with over $1.5 billion in assets.\textsuperscript{129}

"COMSAT Mobile Communications is the only INMARSAT Signatory to offer full, four ocean region, global coverage for INMARSAT-A services using its own facilities."\textsuperscript{130} COMSAT Mobile offers fleet management services, including navigation and position reporting, accounting and administrative programming, fleet management tools to facilitate inventory control, scheduled maintenance and spare parts, and meteorological and safety services.\textsuperscript{131} COMSAT's MARISAT Satellite Communications System is used by both the U.S. and U.K. Navies. About 600 U.S. Navy vessels are equipped to use MARISAT.\textsuperscript{132}

PanAmSat (Alpha Lyracom) was organized in 1984 to provide services between the US and Latin America, but did not launch its first satellites until 1988.\textsuperscript{133} It now has the capacity to provide television and data distribution not only to Latin America and North America, but to most of Europe as well.\textsuperscript{134} Its satellite (PASI) has six Ku-band transponders connecting the U.S. and Europe, five C-band transponders connecting the U.S. and South America, and twelve C-band transponders for other regional use.\textsuperscript{135} PanAmSat plans on developing a constellation of six satellites.\textsuperscript{136}

Orion Satellite Corporation, an international telecommunications services and transmission facilities provider, in-

\textsuperscript{128} See 1992 COMSAT ANN. REP. COMSAT reported it held a 21.8% share of INTELSAT in 1992. INMARSAT reports that COMSAT held a 23% ownership share in 1993.

\textsuperscript{129} 1992 COMSAT ANN. REP. (1992). COMSAT Mobile Communications reported growth in revenues of $10 million in 1992 for land mobile services and revenues over $1 million in aeronautical communications services.

\textsuperscript{130} THE MOBILE SATELLITE COMMUNICATIONS REVOLUTION, supra note 111, at 10.

\textsuperscript{131} Id. at 9.

\textsuperscript{132} JANE'S MILITARY COMMUNICATIONS 305 (13th ed. 1992). Jane's notes that the commercial shipping portion of MARISAT served as the forerunner to INMARSAT. Both the U.S. and UK Navies utilize special UHF frequencies of MARISAT. Id.

\textsuperscript{133} Martin, supra note 33, at 63.

\textsuperscript{134} Id. at 65.

\textsuperscript{135} DCA Draft, supra note 33, at 2-6.

\textsuperscript{136} Id.
initially offered international communications services using INTELSAT capacity. It plans to build its own satellites in Europe and obtained FCC approval to launch and operate them in 1990.\textsuperscript{137} It plans to launch two satellites in 1994.\textsuperscript{138} Orien’s satellites are Ku-band with multiple spot beams which cover the high density regions of the US and Europe.\textsuperscript{139}

The following commercial satellite providers in the United States are developing global mobile communications systems:\textsuperscript{140} Iridium, essentially sponsored by Motorola, will offer a constellation of sixty-six low earth orbit satellites to link hand-held wireless phones anywhere in the world.

American Mobile Satellite Corp. will offer hand-held phones, through its planned Mobilsat GSO system, linking the U.S., Puerto Rico, and the Virgin Islands.

Ellipsat will offer global communications using mobile capabilities via a constellation of sixteen satellites.

TRW will offer a twelve-satellite system named Odessey linking hand-held phones throughout 90\% of the world.

Globalstar will utilize 48 satellites to provide world-wide paging, voice, data, and fax services.

Cellsat, developed by Loral Space systems, will use three satellites to provide voice, data, and video to hand-held units within the U.S. and twenty-one other satellites for global service.

Constellation Communications intends to establish a global mobile communications system similar to Iridium.

Calling Communications will concentrate on providing fixed telephony to lesser developed nations through a 480-satellite system.

Qualcom foresees a Low Earth Orbit (LEO) satellite extension of its present terrestrial cellular telephone system. It presently provides Radio Determination Satellite Service

\textsuperscript{137} Martin, \textit{supra} note 33, at 76.
\textsuperscript{138} DCA Draft, \textit{supra} note 33, at 2-6.
\textsuperscript{139} Id.
\textsuperscript{140} Sugawara, \textit{supra} note 99, at 71.
(RDSS) in the U.S., Europe and Japan via Ku-band transponders leased from domestic, regional and foreign national carriers.\footnote{DCA Draft, \textit{supra} note 33, at 2-9.}

Orbital Communications Corporation is developing an ORBCOMM LEO satellite system of 20-24 satellites that could provide global messaging service.\footnote{\textit{Id.} Orbcom has completed construction of its first two satellites and has indicated it may build up to 36 satellites. \textit{Starsys Wants Orbcomm Experimental Authority Rescinded}, \textit{Telecommunications Rep.}, Apr. 25, 1994, at 42.}

Leosat Corporation plans a LEOsat system to provide messaging service.\footnote{DCA Draft, \textit{supra} note 33, at 2-9.}

AT&T is developing a Telstar satellite system "tailored to government applications" with one GSO satellite covering the U.S. with a global beam and two satellites to provide global non-polar coverage.\footnote{DCA Draft, \textit{supra} note 33, at 2-8. \textit{Telecommunications Rep.}, No. 47, Nov. 22, 1993, at 48.}

The U.S.'s Microsoft and McCaw Cellular Corporations announced an ambitious plan to build a $10 billion, 840-satellite Teledesic system, which could provide universal broadband services to 95% of the earth's surface.\footnote{Telecommunication Reports, March 28, 1994, at 6.}

COMSAT, PanAmSat and Alascom are known to have provided the military certain services during regional conflicts\footnote{PanAmSat and Alascom carried certain military traffic during the U.S. invasion of Panama, "Operation Just Cause."} and it may be assumed that the military will consider using the services of the developing global mobile communications systems. In fact, COMSAT holds numerous contracts with the U.S. military.\footnote{1992 COMSAT Ann. Rep. 3 lists contracts COMSAT has with the U.S. Defense Commercial Communications Office (DECCO), the U.S. Military Sealift Command, U.S. Army Space Command, the U.S. Marine Corps, and the U.S. Navy. DECCO is DoD's contracting agent for Automatic Data Processing Equipment and long-haul communications. Each of the U.S. military services has authority to contract for similar services.}

\begin{itemize}
\item COMSAT, PanAmSat and Alascom are known to have provided the military certain services during regional conflicts and it may be assumed that the military will consider using the services of the developing global mobile communications systems. In fact, COMSAT holds numerous contracts with the U.S. military.
\end{itemize}
C. Military Satellite Use During Regional Conflicts

"Information, in all its forms, is the keystone of future success."\(^{148}\)

INMARSAT services were used successfully during the Persian Gulf War\(^{149}\) and even provided the Iraqis the ability to contact coalition forces for coordination during Operation "Provide Comfort."\(^{150}\) Some estimate that "half of the satellite communications in the region were provided by commercial satellites."\(^{151}\) Coalition forces, which included the largest naval fleet constituted since WWII,\(^{152}\) were supported by "the most sophisticated information network ever designed . . . dwarfing anything generated in previous wars."\(^{153}\) Approximately 700,000 telephone calls and 152,000 messages per day were passed along satellite, microwave, and landlines at the height of the conflict.\(^{154}\) Commercial communications satellites were admittedly used to pass command and control information.\(^{155}\)

INMARSAT supplemented Naval vessel (including warships) military communications and INTELSAT made the links with U.S. forces in Saudi Arabia.\(^{156}\) Virtually all the ships assigned to the Maritime Interdiction Force, including most of the aircraft carriers, command support, and hospital ships assigned to the Gulf, that blockaded Iraq during the Persian Gulf War had INMARSAT terminals installed.\(^{157}\)

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\(^{148}\) Petersen, supra note 9, at 85.

\(^{149}\) Dubbed by the military as "Operation Desert Storm."


\(^{151}\) Hartshorn, supra note 126, at 42.

\(^{152}\) Of the 359 ships used in Desert Shield/Storm, 212 were chartered (180 flew non-US flags) and 12 were on loan from US allies. Robin E. Rathbun, Strategic Mobility for the 1990's: Mobility Requirements Study, Strategic Rev., Summer 1992.

\(^{153}\) Petersen, supra note 9, at 86, 92, n.7.

\(^{154}\) Petersen, supra note 9, at 86.


\(^{156}\) Hartshorn, supra note 126, at 42.

\(^{157}\) DoD to Expand Commercial Satcom Use, Def. & Aerospace Electronics, May 11, 1992.
INMARSAT was used for communications between U.S. and British warships. Many Navy ships were, however, unable to receive war-related Cable News Network (CNN) broadcasts because they did not have the right equipment, forcing the Navy to send copies of these relatively important video-taped broadcasts, made aboard the Carrier Ranger, to be distributed by courier. Most U.S. ships did not have facsimile transmission capabilities. Moreover, significant communications circuit incompatibilities existed between Navy and U.S. Air Force units, slowing the implementation of the daily Air Tasking Orders that denominated allied targets.

INMARSAT satellites, accessed by portable ground terminals, were used to transmit still electronic photos of almost "newspaper quality" of U.S. Gulf war forces to senior DoD officials.

Trojan SPIRIT (Special Purpose Integrated Remote Intelligence Terminal), a modular satellite communications package mounted on a trailer, which allowed virtual instantaneous direct communications between the front and control officers in the U.S., was one of the most successful communications systems used during "Desert Storm." Some of the fourteen Trojan SPIRIT units, operated by the US Army, were towed by truck alongside armor into Kuwait or airlifted by Chinook Helicopters. Deutsche Bundespost Telekom, Germany’s INTELSAT Signatory, provided the links from Trojan SPIRIT to the two INTELSAT satellites repositioned for the war. The U.S. Army wants to keep the $11 million Trojan SPIRIT system be-

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159 Petersen, supra note 10, at 87.
160 Id.
161 Id. at 86.
164 Id.
165 Id.
cause it is needed and complements other DoD networks.\textsuperscript{166}

Four INTELSAT satellites were used to support the Gulf war.

INTELSAT added 1250 voice and data circuits for public phone and facsimile; added 600 International Business Service (IBS, private network) circuits; supported thirty-three U.S. licensed and one UK licensed transportable earth stations; added a VSAT network consisting of 14 spoke terminals in Saudi Arabia and a hub station in Germany; [and] supported approximately 118.4 Mbps in additional traffic to/from Saudi Arabia during this crisis.\textsuperscript{167}

"In the first ten minutes of the war, we took out 50 command and control targets."\textsuperscript{168} The U.S. Chairman of the Joint Chiefs of Staff announced that the U.S. had targeted Iraq's communications facilities during the war, focusing on its military command and control network.\textsuperscript{169} I believe that Iraq's earth stations, which linked it with INTELSAT and INTERSPUTNIK had been destroyed.\textsuperscript{170} Iraq's command and control centers were attacked again two years after the war, in Operation "Southern Watch," the purpose of which was to enforce the "no-fly" zone in Southern Iraq.\textsuperscript{171}

The U.S. NAVSTAR GPS satellites were heavily used during Desert Storm, enabling huge numbers of vehicle to "navigate surely across the featureless Iraqi desert in the middle of sandstorm, regularly surprising Iraqi forces . . . [t]he defining 'left hook' which enclosed Saddam Hussein's armored divisions was possible only through the use of

\textsuperscript{166} Army Officials Seek to Continue Wartime Data Network, SPACENews, Sept. 8, 1991, at 24.

\textsuperscript{167} DCA Draft, supra note 33.


\textsuperscript{169} Kathleen Killette, Iraq Net Critical Target, COMM. WEEK, Jan. 21, 1991, at 60.

\textsuperscript{170} Author's discussion with COMSAT officials, in October 1993. War Drives Up Demand for Satellite Communications, Remote Sensing, COMM. DAILY, Jan. 18, 1991, at 4, notes that Iraq's key INTELSAT earth stations had ceased transmissions. It was not clear if the three earth stations were destroyed or shut down by the Iraqis. Kuwait's INTELSAT link was cut, Aug. 2, 1989, the day of the Iraqi invasion.

\textsuperscript{171} Petersen, supra note 9, at 90.
10,000 recreational boating GPS units bought off-the-shelf . . .". GPS was used to guide U.S. Air Force air-launched cruise missiles, hundreds of miles away from their targets, and to guide Navy land-attack missiles. Both DoD's DSCS and DMSP (Defense Meteorological satellite Program) were heavily used, with DSCS providing about 75% of all inter-theater connectivity as well as intratheater support in areas not covered by terrestrial systems.

During the war, the 2nd U.S. Marine Corps Air Wing used a $9 million Macsat experimental satellite to transmit twenty to thirty pages of logistics data daily, using its "store-and-forward" capacity.

The Pentagon relied on the French SPOT satellite imagery system to such an extent that some speculated it was monopolizing access to preclude others from obtaining the information.

Alascom, a U.S. commercial satellite communications company, airlifted ten transportable satellite earth stations, which included vans and dishes for voice and two-way data, to the Persian Gulf between August 1989 and January 1991. Under contract with the U.S. Army, Alascom's transportable satellite terminals were immediately deployed and used for tactical applications in Panama during Operation "Just Cause." INMARSAT was used, as it was in Desert Storm, to transmit voice and still electronic photos.

The U.S. Navy used INTELSAT capability to "plug into" Bangladesh's public switched network in Operation "Sea Angel" after it had been hit by a typhoon. Within mili-

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172 Id. at 85.
173 Id. at 85.
178 Rand Study, supra note 25, at 7.
179 Id. at 7-8.
180 Hartshorn, supra note 126, at 39.
tary circles, it is likewise known that both the United King-
dom and Argentina used INMARSAT capabilities during the Falklands conflict.\(^{181}\) Iraq used INMARSAT in its war with Iran.\(^{182}\) All are Parties to the INTELSAT and INMAR-
SAT Agreements.

INTELSAT has agreed to provide the United Nations peacekeeping forces free satellite capacity anywhere in the world.\(^{183}\) INMARSAT’s mobile satellite services were heavily used in the early days of the United Nation’s operation in Somalia.\(^{184}\) United Nations trucks and vehicles in Bosnia are relying on INMARSAT mobile communications services.\(^{185}\) U.S. Army medical units are keeping an INMARSAT portable satellite transmitter on hand, as backup, should the landlines in Croatia fail.\(^{186}\)

As of May 1992, the U.S. Navy had seventy INMARSAT terminals on its ships\(^{187}\) and was installing two to three per month with a goal of outfitting the entire fleet by 1995,\(^{188}\) “On any given day the U.S. Navy has 110 ships forward deployed.”\(^{189}\) To by-pass overcrowded tactical communications channels, the U.S. Navy is increasing use of its IN-
MARSAT-based Streamlined Alternative Logistics


\(^{182}\) Id.


\(^{184}\) Soldiers Rely On INMARSAT In Somalia, SPACE NEWS, Jan. 4, 1993, at 1, 21. The article notes that Mobile Telesystems (Gaithersburg, Md.) alone provided some 30 phones to the U.S. government and 10 to other users in late December 1992-early January 1993. Id.

\(^{185}\) THE MOBILE SATELLITE COMMUNICATIONS REVOLUTION, supra note 111, at 6.

\(^{186}\) Ellen Messmer, MASH Units in Croatia Get Medical Advice from Home; Telemedicine System Puts Experts at the Scene, NETWORK WORLD, June 7, 1993, at 26.

\(^{187}\) According to the Rand Study, INMARSAT terminals are installed on 28 war-

\(^{188}\) DoD to Expand Commercial Satcom Use, DEF. & AEROSPACE ELECTRONICS, May 11, 1992. In a telephone interview, in November 1993, NTIA officials informed the au-
thor that the US Navy had 200-300 terminals on its ships, the US Army was utilizing over 100 terminals, the White House Communications Agency had more than 50 terminals and the other military services were also making use of Inmarsat capabilities.

\(^{189}\) Thomas C. Linn, Naval Forces in the Post-Cold War Era, STRATEGIC REV., Fall 1992, at 20.
Transmission System (SALTS) to improve logistics support.\textsuperscript{190} The U.S. "Navy's information-handling capacity has increased 100\% over that available during Desert Storm."\textsuperscript{191} Captain E.R. Enterline, Director of the Navy's Space Systems Division, recognized that, "Military success has always belonged to the best-informed force."\textsuperscript{192}

I believe, as I will explain later, that international law has evolved to the extent that the military uses of the commercial communications satellite services, discussed above, in Somalia, Bangladesh, Operation Desert Storm, Bosnia, and Croatia, were lawful.

D. \textbf{DoD's Drive Toward Commercial Satellite Usage}

"The U.S. military is being forced to consider innovative technologies and war plans to counter new weaponry emerging around the world as commercially available technology is fused into potentially lethal combinations."\textsuperscript{193} Faced with declining budgets, manpower cuts and exploding demand for information, DoD plans to dramatically increase its use of off-the-shelf satellite communications systems.\textsuperscript{194} DoD "can no longer afford the luxury of owning all of their SATCOM . . . . capability . . . . [T]he only thing off-limits will be classified reconnaissance systems and some other 'highly survivable' systems."\textsuperscript{195} "Commercial systems are the obvious first place to look to economically achieve expanded capabilities."\textsuperscript{196} The private sector's advanced expertise is also driving DoD toward commercial satellite usage.\textsuperscript{197}

\textsuperscript{190} Id.  
\textsuperscript{191} Petersen, supra note 9, at 90.  
\textsuperscript{192} DoD to Expand Commercial Satcom Use, supra note 188, at 4.  
\textsuperscript{193} Neil Munro, Pentagon Braces for New High-Technology Threats, DEF. NEWS, Sept. 6, 1993, at 3.  
\textsuperscript{194} DoD to Expand Commercial Satcom Use, supra note 188.  
\textsuperscript{195} Id.  
\textsuperscript{197} Hartshorn, supra note 126, at 39. DoD is interested in high data rates, video delivery, and very small aperture terminals (VSATs).
The DoD’s policy had always been to use commercial communications satellites to carry about one-third of its long-haul communications. Since most of the traffic was administrative, few questions were asked. In fact, one source estimates that DoD spends about $160 million per year on national and international satellite services.

A study for the U.S. Army, conducted by Rand, concluded that there were, in general, either no or minimal impediments to military use of commercial communication satellite services. Competition between commercial providers has improved service, increased capacity, reduced costs, and “lessened political resistance to handling military traffic.” Much military message traffic is encrypted. The identity of user ships is unknown to INMARSAT, and it is unlikely that INMARSAT (or INTELSAT) knows the content of military communications. Furthermore, the U.S. and its allies share a great deal of control over INTELSAT and INMARSAT because of their weighted voting structures and thus have large roles in determining the organizations’ positions on military usage.

Increased use of commercial communications satellites is suggested by the National Space Council’s space policy guidelines of February 8, 1990. Those guidelines encourage government agencies to use them “to the fullest extent feasible” and in a “cost-effective” manner.

The shortcomings of the U.S. satellite communications capabilities discovered during the Gulf War, including the shortage of Ultra High Frequency (UHF) links, lack of secure capacity, lack of area coverage, and limited ability to communicate with commercial shipping, are important factors in the search for obtaining commercial capacity. A Pentagon post-mortem of the war said that significant effort was required to maintain adequate space-based communica-

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198 Rand Study, supra note 25, at 7.
199 DCA Draft, supra note 33, at A-2.
200 Rand Study, supra note 25.
201 Id. at vi.
202 Id. at 32.
203 Id. at iii.
tions capabilities among coalition forces and identified the need to improve the use of space-based communications support by tactical commanders in their operational plans.204

The U.S. House of Representatives Appropriations Committee has directed DoD to use commercial communications satellites more frequently, in an effort to save money, as part of DoD's overhaul of the way it runs space programs.205 The Committee cut funding for DoD's MILSTAR (Military Strategic and Tactical Relay Satellite System) program, but asked DoD to develop a low-cost series of satellites for tactical communications once the MILSTAR constellation is in orbit.206

The U.S. military market for commercial satellite communications was expected to grow to over $2 billion in 1992 and remain close to that level through 1996.207 In July 1992, DoD contracted with Space Systems/Loral, Hughes Aircraft and COMSAT to study military uses for commercial satellite networks. The study, the Commercial Satellite Communications Initiative (CSCI), is intended to reduce DoD telecommunications costs and diversify its satellite communications capabilities.208

204 Space Communication Links for War Required Significant Effort, AEROSPACE NEWS, July 24, 1991, at 126.
205 Andrew Lawler, House Panel Tells Pentagon to Overhaul Space Programs, DEF. NEWS, Sept. 27, 1993. To force DoD to save by leasing commercial communications satellites in a coordinated manner, the Committee cut $100 million from DoD's Operation and Maintenance funds.
206 Id.
207 David Hartshorn, The Best Offense is a Good Defense ... Market, SATELLITE COMM., Nov. 1992, at 39. According to a Frost & Sullivan report cited by Hartshorn, in 1991, the USAF spent $1.111 billion, the Army spent $84.5 million, the Navy spent $412 million, and Defense Agencies spent $1.2 billion, for satellite communications and another $2 billion for support programs. In 1989, the U.S. spent approximately 0.35% of its Gross Domestic Product (GDP) on military space programs and about 0.2% on civil space programs while the U.S.S.R. spent roughly 0.6% and 0.5% respectively, followed by France, the EEC, Italy, Germany, Japan, U.K. and Canada in terms of the biggest spenders.
208 COMM. DAILY, Oct. 9, 1992, at 9. Hartshorn, supra note 207, at 46. The CSCI Study is designed to answer: which services could support DoD users; what cost-reduction opportunities exist; how can DoD and commercial communications systems, both satellite and terrestrial, be interfaced; and, how can DoD be assured of communications system access.
A 1991 Defense Communications Agency (DCA) study of the potential uses of commercial communications satellites recommended the creation of "[a] domestic and international commercial-based Private (dedicated) General Purpose Fixed [and Mobile] Satellite Service Network [using INTELSAT, INMARSAT, regional systems, and private services] to meet growing general purpose requirements not satisfied by the current or planned Defense Satellite Communications System [UHF and EHF] (DSCS) SHF MILSATCOM systems."\textsuperscript{209} The study concluded that, "[G]eneral purpose SATCOM requirements are estimated to far exceed the existing and planned capacity of the military MILSATCOM systems . . . [which could require] up to one billion bits per second of additional general purpose capacity . . . by 2010."\textsuperscript{210}

The DCA Study identified benefits of utilizing commercial programs, including: their ability to handle "surge" capacity for crises and low-intensity general purpose requirements; their continuity of service capabilities; their enhancement of the diversity of MILSATCOM's Architecture; their available VSAT applications; their ability to transmit at higher data rates than that supported on DSCS (up to 150 Mbps versus 100 Mbps on DSCS);\textsuperscript{211} realization of cost-savings through bulk or discounted acquisitions; removing DSCS users who do not need the DSCS survivability features in order to provide greater access to DSCS by tactical warfighting users; satisfying previously deferred requirements and meeting newly emerging requirements.\textsuperscript{212} The study noted that command link encryption is a capacity on all new U.S. commercial satellites and is provided by INTELSAT and INMARSAT, as well.\textsuperscript{213} The study suggested


\textsuperscript{210} \textit{Id.} at ES-3.

\textsuperscript{211} DCA Draft, supra note 33, at 1-2.

\textsuperscript{212} OSD Review Draft, supra note 209, at ES-2.

\textsuperscript{213} DCA Draft, supra note 33, at 5-8. Command link encryption deals with the control of satellites. The Study notes that most systems also have multiple, dispersed, "back-up" control facilities.
that commercial satellites, in geosynchronous orbit are just as likely to survive various anti-satellite threats as are military satellites.\textsuperscript{214} The study recommended, in addition to procuring permanently assigned capacity, that DoD obtain pre-paid contingency capacity as well.\textsuperscript{215}

The DCA suggested that Motorola's IRIDIUM and Loral's CELLSAT could meet DoD requirements for handheld "man-portable" voice terminals with connectivity to both the PSN and government switched network from anywhere in the world.\textsuperscript{216} DCA noted that the National Security Agency (NSA) is working with Motorola on incorporating secure-voice telephone capability on IRIDIUM.\textsuperscript{217}

The U.S. Navy has expressed interest in Motorola's IRIDIUM system and the CELSAT system, noting that use of those systems by the military would require encryption.\textsuperscript{218} The DoD may soon go to the private sector for its encryption systems, as well.\textsuperscript{219}

The U.S. Navy is considering a CRAF-like (Civil Reserve Air Fleet) system applicable to commercial communications satellites to mobilize them quickly for military use in future conflicts.\textsuperscript{220} The Defense Communications Agency, in a 1991 study, also referred to the possibility of developing a CRAF-like system called the Commercial Reserved Space System Program (CRSSP), proposed by USSPACECOM, to obtain capacity for surge requirements.\textsuperscript{221} The biggest drawback to the CRSSP would be the payments needed to offset lost commercial capacity. However, the advantages

\textsuperscript{214} Id. at 2-3.
\textsuperscript{215} Id. at 5-8.
\textsuperscript{216} Id.
\textsuperscript{217} OSD Review Draft, supra note 209, at ES-3.
\textsuperscript{218} DoD To Expand Commercial SatCom Use, supra note 188, at 4. The Navy noted it is interested in Direct Broadcast TV satellites for multi-channel imagery and commercial news and entertainment.
\textsuperscript{219} Hartshorn, supra note 126, at 47.
\textsuperscript{220} Military Eyes CRAF-like System for Commercial Satellites, AEROSPACE DAILY, Feb. 21, 1992, at 285. Under the CRAF program, the military pays a portion of the cost of constructing airliners which are readily convertible to carrying cargo or troops for military purposes. The aircraft are then used to backup military airlift in wartime.
\textsuperscript{221} DCA Draft, supra note 33, at 6-2.
would include the ability to add military features, such as hard-limited commercial band transponders for mitigation of “jamming,” and the availability of that capacity (which would revert to military control in crises).222

The Rand Study pointed out several advantages to the military of using commercial communications satellites, including the avoidance of development costs, the relatively small investment needed, the availability of excess capacity, the ability to cut across military service boundaries (e.g., Air Force to Navy), their compatibility with existing military systems, their interoperability with commercial users and allied forces, their ability to withstand the rigors of space, the ability to encrypt traffic and limited jam-resistance.223

The Rand Study envisions a system, combining INTELSAT and INMARSAT usage, that would give commanders at both the Pentagon and major headquarters complete communications with deployed units globally and that would permit tactical use.224 The Study states that privately-owned U.S. companies are not restricted from serving military users by any government regulations and that they, like the international organizations, which are not precluded from serving the military, are more motivated to maximize revenues than question military usage of their services.225

In addition to recommending increased INTELSAT and INMARSAT usage, the Rand Study suggests that the military could benefit from private networks offering “hub and remote site” services presently used by business. The hub would be an Army headquarters and the remote sites would be equipped with VSATs at deployed units, such as field hospitals, ammunition, fuel and supply depots.226

The Rand Study concludes that the military is likely to use commercial communications satellite systems more and with greater frequency. The military should therefore plan

222 Id. at 6-2.
223 Rand Study, supra note 25, at 4-5, 9-10.
224 Id. at 23-24.
225 Id. at 28-29.
226 Id. at 13-14.
for and exploit such use rather than allowing the next crisis to dictate the need.\footnote{Id. at 38-39.}

The U.S. DoD is not alone in its search for communications satellite technology that has both civilian and military applications. DoD is closely watching Pakistan and India's satellite business aspirations.\footnote{Hartshorn, supra note 126, at 47.} Furthermore, with pressure to surrender control of its GPS system to the Department of Transportation and open it to commercial users, DoD is concerned about hostile groups obtaining access, which might allow them to guide weapons and attacks against the U.S. and its allies.\footnote{Lisa Burgess & Neil Munro, Pentagon Fears Loss of GPS Control, DEF. NEWS, Aug. 2, 1993, at 8.}

\section*{PART II. INMARSAT, INTELSAT & COMSAT}

\subsection*{A. INMARSAT}

The International Maritime Satellite Organization (INMARSAT) operates nine or more satellites, located over the three major oceans, to provide ship-to-shore and shore-to-ship communications services. It was created over seventeen years ago to provide satellite communications capabilities for the maritime community. It began operations in February 1982, using MARISAT (U.S.), MARECS (ESA) and INTELSAT leased capacity.\footnote{United States Space Law, National and International Regulation, International Regulation II.C.3, Report of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, Aug. 9, 1982, at 83.} Any state may become a member\footnote{INMARSAT Convention, art. 32(1).} and ships of all nations, including nonmembers, may utilize its services.\footnote{INMARSAT Convention, art. 7(1).} INMARSAT has "legal personality" and the capacity to enter into agreements with States and international organizations.\footnote{INMARSAT Convention, art. 25. INMARSAT is likewise responsible for its acts and obligations.
About 96% of international commodity trading is carried by a global fleet of over sixty thousand ships belonging to over thirty nations, 70% of which are at sea at any given time.\textsuperscript{234} With such major investments in these vessels, shipowners could ill-afford to be out of touch with them. However, that was the case with the radio communications available until the advent of the INMARSAT system.\textsuperscript{235} Although INTELSAT had been in existence for years, the technology for mobile satellite communications had not yet been developed.

INMARSAT provides “space-segment,” e.g., the satellites, telemetry, tracking, command and control facilities, while ship owners (or other users) must obtain their own shipborne or mobile earth terminals.\textsuperscript{236} INMARSAT members own and operate coast earth stations.\textsuperscript{237} INMARSAT controls the network from London.\textsuperscript{238} Recently, INMARSAT has expanded its service into aeronautical and land-mobile communications.

2. Genesis

The Intergovernmental Maritime Consultative Organization (IMCO)\textsuperscript{239} recognized the potential applicability of space-based communications as early as 1966.\textsuperscript{240} IMCO’s

\textsuperscript{234} NANDASIRI JASENTULIYANA & ROY S. LEE, MANUAL ON SPACE LAW 439 (1979). There are approximately 80,000 ships today according to a speaker at the Georgetown University Law Center, Maritime Law Symposium, Nov. 29, 1993.

\textsuperscript{235} "Shore-based VHF coast stations can only reach out to about 50 km. Shore-based MF stations are good to about 160 Km. Short wave communications (HF) . . . can be used for long-range calls. '[B]ut it’s fairly low quality’ . . . (and) subject to interference, congestion, irregular coverage and a lack of privacy," according to INMARSAT Director General, Olof Lundberg. Guy M. Stephens, Maritime Pays the Freight, SATELLITE COMM., March 1989, at 13.

\textsuperscript{236} Usually, large ships, e.g., oil tankers, bulk carriers, container ships, passenger liners, yachts, fishing boats and other vessels, use INMARSAT “Standard A” terminals. The smaller “Standard C” terminals are used on smaller ships, trucks, and aircraft. INMARSAT System, JANES’ SATELLITES, at 89.

\textsuperscript{237} Id.

\textsuperscript{238} Id.

\textsuperscript{239} IMCO is a United Nations’ Organization.

\textsuperscript{240} JASENTULIYANA & LEE, supra note 234, at 439. An IMCO panel of experts identified some of the reasons for establishing a system which could improve reliability, quality, and speed of communications. See also Sessional Act of the International Confer-
Maritime Safety Committee decided to study satellite communications. The 1967 World Administrative Radio Conference (WARC) recommended IMCO pursue such a study as well.\textsuperscript{241} The Maritime Safety Committee, through its subcommittee on Radiocommunications and a Panel of Experts on Maritime Satellites, performed the detailed tasks and recommended an international conference. In November 1973, the 80-member IMCO Assembly convened a conference to consider establishing an international maritime satellite system.\textsuperscript{242}

In November 1972, the U.S.S.R. submitted a document, "Provisional Principles for the Establishment of an International Organization for a Maritime Satellite Service," which provided a basis for discussions.\textsuperscript{243} Many of the U.S.S.R. document's provisions were incorporated into the IMCO panel of expert's\textsuperscript{244} September 1974 report, which formed a basis for the conference's work and the later two agreements proposed by the conference.\textsuperscript{245}

IMCO's International Conference on the Establishment of an International Maritime Satellite System first session convened in April 1975.\textsuperscript{246} The conference came to a "broad consensus on a number of basic principles," but was unable to resolve all the issues. The conference, therefore, decided to hold a second session and leave further preparatory work to an "intersessional working group."\textsuperscript{247} The intersessional group held three meetings and had a complete draft set of articles for the second meeting of the Conference, which approved the complete text of the Convention

\textsuperscript{241} JASENTULIYANA & LEE, supra note 234, at 439.

\textsuperscript{242} United States Space Law, National and International Regulation, International Regulation II.C.3, supra note 230, at 82. IMCO Resolution A.305 (VIII), Nov. 23, 1973.

\textsuperscript{243} GENNADY ZHUKOV & YURI KOSSLOSOV, INTERNATIONAL SPACE LAW (1984).

\textsuperscript{244} The Panel of Experts met six times between July 3, 1972 to Sept. 6, 1974. Its eighteen members were: Australia, Canada, Denmark, Finland, France, F.R.G., Liberia, Greece, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, U.S.S.R., U.K. and the U.S. JASENTULIYANA & LEE, supra note 234, at 458 n.11.

\textsuperscript{245} ZHUKOV & KOSSLOSOV, supra note 243, at 123.

\textsuperscript{246} INMARSAT BASIC DOCUMENTS, 3 (1989).

\textsuperscript{247} JASENTULIYANA & LEE, supra note 234 at 441-42.
and Operating Agreement in February 1976.\textsuperscript{248} In September 1976, the forty-eight nations attending the last of three sessions of the conference unanimously agreed that an international maritime satellite communications organization should be formed.\textsuperscript{249} The conference adopted two agreements: a Convention on the International Maritime Satellite Organization and an Operating Agreement on INMARSAT.\textsuperscript{250} The Agreements were opened for ratification in 1976 and entered into force in July 1979.\textsuperscript{251} The original membership of fifteen nations has grown to seventy-two nations.

A divergence of views existed throughout the early negotiations about whether INMARSAT should be a commercial enterprise or a public service organization.\textsuperscript{252} Initially, the United States had proposed that INTELSAT be used to provide the required maritime services for the proposed new system, since it opposed creating a new international organization. There was no support, however, for that proposal nor the U.S. proposal that a satellite consortium be formed.\textsuperscript{253}

At the time, a number of major seafaring nations, such as the U.S.S.R. and China, were not INTELSAT members and their absence from an organization serving maritime communications was perceived to be a serious disadvantage.\textsuperscript{254} INTELSAT’s Board of Governors’ weighted voting procedures were seen as a potential limitation on the influence that lesser developed countries might have over the direction of a maritime system.\textsuperscript{255} Furthermore, the European nations and major seafaring nations looked for an organization which would contribute to safety at sea, public commu-

\textsuperscript{248} Id. at 442.
\textsuperscript{249} INMARSAT System, JANES’ SATELLITES, at 89.
\textsuperscript{250} United States Space Law, National and International Regulation, International Regulation II.C.3, supra note 230, at 82.
\textsuperscript{251} INMARSAT System, JANES’ SATELLITES, at 89.
\textsuperscript{252} JASENTULYANA & LEE, supra note 234, at 443.
\textsuperscript{253} Id. at 440-41.
\textsuperscript{254} Id. at 441.
\textsuperscript{255} Id.
nicipations, and modern fleet management, more of a public service organization. So, what emerged through compromise was a "hybrid" institution which is neither an entirely commercial enterprise nor a public service organization.

3. **Structure & Relationships**

Under the INMARSAT Convention, each nation or Party to the Convention, may designate a "Signatory" or competent public or private entity to sign the Operating Agreement. The relationship between the nation-Party and its designated "Signatory" is then governed by that nation's domestic law.

In 1979, most of the Signatories were government-controlled Postal Telegraph and Telephone (PTT) organizations. The U.S., however, designated COMSAT, a private governmental organization, as its Signatory. While a "Party" is not liable for obligations arising out of the Operating Agreement, it is responsible for ensuring its Signatory fulfills its responsibilities. Likewise, each Signatory itself is responsible for fulfilling obligations under the Convention and Operating Agreement and for acting "consistently" with them. Applications for use of INMARSAT space segment generally must be submitted through a Signatory, who must ensure compliance with all INMARSAT conditions.

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256 *Id.*

257 *Id.* at 443.

258 Nations may sign the Operating Agreement, or designate a competent entity to do so, and become signatories, but only nations may sign the Convention and become parties. INMARSAT Convention, art. 20.

259 INMARSAT Convention, art. 1, 2, & 4. INMARSAT BASIC DOCUMENTS, at 12-14.

260 INMARSAT Convention, art. 4(c).


INMARSAT has three organs: the Assembly, the Council, and the Directorate. The Directorate is responsible for the day-to-day functioning of the organization. The Council, consisting of twenty-two representatives of Signatories, has the responsibility of making space segment available to carry-out the Organization's purposes in the most economic, effective and efficient manner consistent with the Convention and Operating Agreement. The Council is the predominant organ for making INMARSAT's operational decisions. The Assembly, in which each Party has one vote, meets every two years, reviews INMARSAT's activities, policies, and long-term objectives, and ensures the Organization's activities are consistent with the Convention, the United Nation's Charter, and any other treaties by which INMARSAT is bound.

4. Purposes

The purpose of INMARSAT is set forth in Article 3 of the Convention:

(1) [t]o make provision for the space segment necessary for improving maritime communications and, as practicable,
aeronautical communications, thereby assisting in improving communications for distress and safety of life, communications for air traffic services, the efficiency and management of ships and aircraft, maritime and aeronautical public correspondence services and radiodetermination capabilities.

(3) The Organization shall act exclusively for peaceful purposes.

INMARSAT Convention, art. 3 (emphasis added). The earliest draft articles for the Organization stated that it "shall act exclusively for peaceful purposes." The earliest reports of the IMCO Panel of Experts on Maritime Satellites illustrate that military ships were not explicitly anticipated users. In early documents, the U.S., in fact, had suggested INMARSAT would be for "merchant shipping."

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270 "The Organization" is INMARSAT. INMARSAT Convention, Art. 2(1). INMARSAT BASIC DOCUMENTS, 13 (1989).

271 IMCO Panel of Experts On Maritime Satellites- 3d session, Agenda item 2, MARSAT III/WP.7, Sept. 13, 1973. Its draft PART II, Purpose and Function, Article 2, third paragraph states, "[t]he Organization shall act exclusively for peaceful purposes." At that same meeting, the French pointed out that the draft provided no clear and precise reference to INMARSAT's mission. They proposed the following: "[T]he Organization should aim to make available, without discrimination, to all sea areas where there may be shipping routes and fishing grounds, the space segment necessary for telecommunications services with ships, for the safety of maritime transport and for the safeguard of human life at sea." MARSAT III/WP I, Sept. 11, 1973 (On file with CMS).

272 The Panel’s report stated, "[i]n the early stages the ships likely to be participating are likely to be those of specialized types (e.g. tankers, container ships, large passenger ships, etc.) ... eventually ... (a) vessels covered by the International Convention for the Safety of Life at Sea, 1960; (b) fishing vessels ... ; (c) scientific, industrial and miscellaneous other units operating in marine environments." MARSAT ES.I/39, Nov. 10, 1972, annex III, para. 2.1.2, at 2 (On file with CMS). Likewise, the U.S. did not reference military vessels in its deliberations. See MARSAT II/4/6, April 24, 1973, Note By the Government of the United States of America, IMCO Panel of Experts on Maritime Satellites, 2d Session, Agenda Item 4. The earliest proposed definition of the term "ship" taken from art. (2) (4), International Convention for the Prevention of Pollution from Ships (1973) was "a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushioned vehicles, submersibles, floating craft and fixed or floating platforms." Draft Convention, MARSAT IV/9, annex III, at 85 (On file with CMS). That is largely the present definition found in the Convention.

273 "The United States believes there is an important need for improved maritime communications; ... the preponderantly international character of merchant shipping support consideration of ... [an INMARSAT]." MARSAT/CONF/5/3, Apr. 15, 1975, Note By the Government of the United States of America, IMCO International
The comments of representatives from the U.K., India, and Germany explicitly referenced "merchant shipping."274 The first proposals for the Preamble by the Intersessional Working Group of the International IMCO Conference referred to making provision for "the benefit of world shipping."275 The change to the present language was at the suggestion of the U.S.276

A 1972 Soviet draft, "Principles for the Establishment of an International Organization for a Maritime Satellite Service" (INMARSAT), was a comprehensive document that contained language similar to that found in many of the present articles. The Soviets stated that the organization should be in full compliance with UN General Assembly Resolution 1721(XVI) (use of outer space for peaceful purposes) and that:

2. [Its activities]... shall be based on universally recognized principles of international law, including the appropriate provisions of the United Nations Charter as well as of the Treaty on Principles Governing the Activities of States in the Exploration and Use of ("Outer" omitted) Space, including the Moon and Other Celestial Bodies, concluded on 27 January 1967, and Geneva Conventions on Law of the Sea, 1958.

. . . . .

5. The Organization should promote the development of shipping, the economical and social progress of peoples and shall act exclusively for peaceful purposes. It should not

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275 ISWG I/3, July 21, 1975, Consideration of Fundamental Principles, Working Paper (on file with CMS). The Convention's Preamble now reads "Determined, to this end to make provision for the benefit of ships of all nations . . . ."

permit the military use either directly or indirectly of the technical means which will be at its disposal.\(^{277}\)

The above language concerning military use did not make it beyond the Soviet draft Principles and was not included in the first draft of the Convention submitted by the IMCO Panel of Experts attached to its first report.\(^{278}\) However, document’s the portions related to the Outer Space Treaty, the Law of the Sea Convention, the UN Charter, and acting “exclusively for peaceful purposes” were included in a draft by the Panel of Experts, in May 1973.\(^{279}\) The “peaceful purposes” language persisted unscathed throughout the entire negotiation as did the references to the Outer Space Treaty and UNGA Resolution 1721(XVI).

In April 1975 the U.S. submitted a proposed “Intergovernmental Agreement” (for an INMARSAT) the purpose of which:

Article III

(a) [i]s to make provision on a commercial basis for the space segment necessary for improving communications to ships of all nations, thereby assisting in satisfying the need for better public correspondence facilities, in providing radiodetermination, and in improving distress and safety communications and efficiency and management of ships


(c) The Organization shall act exclusively for peaceful purposes.280

The U.S. "peaceful purposes" language was perpetuated in the Draft Convention submitted by the U.S. in September 1975.281 By October 1975, the Conference had three texts available for Article 3 (Purpose) of the Convention, from the Panel of Experts, the U.S. Intersessional Working Group (II/2), and the German, U.K., Norwegian ISWG.282 None disagreed on the “peaceful purposes” language. The final report of the Intersessional Working Group, in December 1975, retained the “peaceful purposes” language.283 The final Convention on the International Maritime Satellite Organization (INMARSAT), adopted by the IMCO Conference in October 1976 used the “peaceful purposes” language, in Article 3(3).284

The negotiating history of the Convention does not reveal why the Soviet's proposed language, “It should not permit the military use either directly or indirectly of the technical means which will be at its disposal,” disappeared in 1973 from any draft texts or from further discussion. It was never included in any draft by any intersessional working group or by the Panel of Experts. The Convention's negotiating history further reveals that the sole focus of the INMARSAT Convention was on international commercial shipping and that military uses were not contemplated. Perhaps it was believed that since the Convention would apply to commercial shipping, any discussion of military uses

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would be superfluous. That would not be surprising since IMCO is an organization focused on commercial shipping. However, while the INTELSAT Convention was available to the drafters with its narrow limits on certain military services, no discussion of it was ever publicly recorded.

It is likely the genesis of the “peaceful purposes” language found in the 1972 Soviet Draft Principles was any one or more of: U.N. General Assembly resolutions; the Outer Space Treaty; or treaties dealing with the sea or Antarctica. However, the INMARSAT travaux préparatoires does not explicitly reveal its source.

Article 3(3)'s admonition, that the organization shall act exclusively for peaceful purposes, explicitly and unambiguously imposes an obligation on INMARSAT that may be equally applicable to other commercial communication satellite service providers under the Outer Space Treaty and customary international law. Article 3(3), however, does not require more of INMARSAT than is required by international law.

5. **INMARSAT & COMSAT Views On Military Uses**

In October 1993, the INMARSAT General Counsel's Office stated:

“[p]eaceful uses” does not necessarily mean non-military uses. A clearer description would be non-tactical uses. Inmarsat's commissioning of SES on naval ships or other military uses is based on receipt of an understanding by the respective Inmarsat Party's appropriate governmental authority that its use of Inmarsat space segment will be exclusively for peaceful purposes. This generally encompasses distress and safety communications and other purposes recognized by international law.\(^{285}\)

INMARSAT's Counsel's Office prepared a Summary Legal Opinion, related to Article 3(3) and commissioning Ship Earth Stations (SESs) on warships and naval auxiliary

vessels, in December 1987. Their opinion may be summarized, as follows: "Peaceful" suggests "something which does not relate to armed conflict." The travaux preparatoires of the Convention and the Convention itself offer little help. Such language is used in several other treaties. Use of the words in the Law of the Sea Convention has not called use of warships on the high seas into question. In the context of the Outer Space Treaty, one view, which seems to be the minority view, is that peaceful means "non-military"; so any military use is non-peaceful, even absent armed conflict. An opposing view, not universally agreed too, which heavily relies on the UN Charter, is that peaceful merely means "non-aggressive."

The legal opinion states that the use of the adverb "exclusively" in the Convention cannot change the essential meaning of the term peaceful. The best approach, in the context of the INMARSAT Convention, is to follow the ordinary meaning of the words "peaceful purposes" — those not related to armed conflict. They concluded that use of SESs on vessels engaged in armed conflict, even if acting in self-defense, is not a use for peaceful purposes. They said it is not possible to distinguish, once armed conflict begins, between various types of communications or their use aboard warships or naval auxiliary vessels. Therefore, once engaged in armed conflict, SES should only be used for distress, safety communications, and other purposes recognized by international humanitarian law, such as aiding the shipwrecked, sick and wounded and alerting rescue authorities or other ships.286

Attached to their Summary Legal Opinion was a draft of "Procedures for Commissioning Ship Earth Stations on Board Warships and Naval Auxiliary Vessel," requiring the application to clearly indicate the nature of the vessel; and a written assurance from the competent governmental authority of the vessel's flag-state that the SES would be used exclusively for peaceful purposes. Only then would an ap-

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286 INMARSAT Office of General Counsel, Summary Legal Opinion, art. 3(3) of the Inmarsat Convention (Dec. 23, 1987).
lication be granted subject to the condition the SES be used exclusively for peaceful purposes.

The matter was to be brought before the Council for adoption of the draft procedure and Summary Legal Opinion by the Director of INMARSAT. In March 1988, INMARSAT sent a letter to all Signatories stating the policies of the draft procedure were applicable to the commissioning of SESs aboard warships and naval auxiliaries. NTIA makes these "written assurances" for the U.S.

COMSAT's view is that neither installation of INMARSAT terminals on military vehicles nor their use in peacetime is restricted. They conclude that permissible uses during actual hostilities include use in support of actions pursuant to U.N. resolutions and use in support of other humanitarian purposes. COMSAT opined, in any case, that no distinction could be made on the basis of the cargo carried. They concluded that the test involves whether the vehicle is primarily offensive in nature and whether it is actually engaged in armed conflict. If both questions are answered affirmatively, then an INMARSAT terminal could not be used consistent with the Convention's requirements. If the questions were answered in the negative, then use of the terminals would be permissible. COMSAT expressed the view it was not aware of any other limitation on the use of INMARSAT or INTELSAT by the U.S. military. It is clear that the U.S. and coalition forces use of INMARSAT services during the Gulf War went beyond that which INMARSAT's counsel would approve, but was well within uses considered permissible by COMSAT's legal counsel.

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287 Letter from Dr. W. Von Noorden, Legal Advisor, INMARSAT, to COMSAT Maritime Services, Space Communications Division (Dec. 23, 1987).
288 Letter from Dr. W. Von Noorden, General Counsel, for the Director General, to all INMARSAT Signatories (March 29, 1988).
289 Letter from Mr. Jack Hannon, Vice President Legal Affairs, COMSAT Mobile Communications, to the Director of Combat Development, U.S. Army (Sept. 2, 1993).
B. INTELSAT

1. Genesis

In 1962, the United States created the Communications Satellite Corporation (COMSAT),\textsuperscript{291} a private for-profit corporation.\textsuperscript{292} The Act had the twin goals of quickly obtaining the benefits of satellite communications and doing so by creating competition. The Act established the U.S. policy of developing a global communications satellite system responsive to public needs and national objectives that would provide economical service to lesser developed countries, "nondiscriminatory" access for all users and "contribute to world peace and understanding."\textsuperscript{293}

Under the COMSAT Act, COMSAT had the responsibility for planning, constructing, and operating the satellite system, either alone or with other countries, and for leasing space satellite communications channels to common carriers. Two years after COMSAT's creation, the U.S. and ten other countries entered into an Interim Agreement establishing INTELSAT.\textsuperscript{294} Among other things, the Interim Agreement provided that COMSAT would temporarily operate INTELSAT, until the organization got on its feet. The members subsequently executed two additional executive agreements establishing INTELSAT's ground rules: the Definitive Agreement and the Operating Agreement. The INTELSAT Definitive Agreement was signed on Aug. 20, 1971.

\textsuperscript{291} COMSAT, the US Signatory to the INTELSAT and INMARSAT Conventions, is regulated by the Federal Communications Commission (FCC) and receives its instructions on how to vote on INTELSAT and INMARSAT issues from the U.S. government. Through a series of FCC orders in the 1980s, primarily precipitated by other emerging satellite communications competitors, COMSAT's functions as the U.S. Signatory and as a commercial, competitive enterprise were separated. The FCC docket is referred to as the "COMSAT Structure Order" series. \textit{COMSAT Structure Order I}, 90 F.C.C.2d 1159 (1982); \textit{COMSAT Structure Order II}, 97 F.C.C.2d 145 (1984).


\textsuperscript{293} \textit{Id.}

\textsuperscript{294} Alpha Lyracom Space Communications, Inc. v. COMSAT, 946 F.2d 168, 170 (2d Cir. 1991).
and entered into force on February 12, 1973.295 The U.S. is a Party to the INTELSAT Agreement.296 COMSAT is the United States Signatory to the INTELSAT Agreement.

2. Structure and Relationships

INTELSAT is very much like INMARSAT in its structure. It is a profit seeking297 commercial enterprise with a juridical personality,298 comprised of an Assembly, a Board of Governors, an executive organ, and a Meeting of Signatories.299 Each Signatory has an investment share calculated pursuant to Articles 6 and 7 of the Operating Agreement in proportion to its utilization of INTELSAT space segment.300 Voting, like voting in INMARSAT, is generally weighted in accordance with the Signatory’s investment share.301

The Assembly, which meets about once every two years, sets policy and long term plans. The twenty-eight member Board of Governors meets about five times per year to make decisions concerning the design, development, operation and maintenance of the satellites. Members of the Board represent countries or groups of countries with large ownership percentages.302 INTELSAT’s daily operations are conducted by the Director General, INTELSAT’s executive organ.


296 It should be noted that, in so far as it applies to the United States, the INTELSAT Agreements are binding on the U.S. as “presidential executive agreements” since neither were executed with the “advice and consent” of the U.S. Senate as is required for a formal “treaty” obligation. U.S. CONST. art. II, § 2.

297 Definitive Agreement, supra note 295, at art. III.

298 Id. at art. IV.

299 Id. at art. VI.

300 Id. at art. V.

301 COMSAT holds roughly a 25% investment share in INTELSAT and controls over 25% of INTELSAT’s satellites. DCA Draft, supra note 33, at 5-7.

302 Martin, supra note 33, at 83.
3. Purpose

INTELSAT's main purpose is "to continue ... the design, development, construction, establishment, operation and maintenance of the space segment of the global commercial telecommunications satellite system as established under the ... Interim Agreement and the Special Agreement." Like INMARSAT, it owns its satellites, but each member owns its earth terminals.

In the Preamble of its Definitive Agreement, INTELSAT recognizes the principles of UNGA Resolution 1721(XVI), the Outer Space Treaty, that outer space shall be used "for the benefit of all mankind" and that outer space "shall be used for the benefit and in the interests of all countries." Unlike the later-developed INMARSAT Convention, it does not explicitly refer to the UN Charter or the applicability of international law. Nor does it state that it will act for "peaceful purposes," exclusively or otherwise.

Unlike INMARSAT, INTELSAT's Definitive Agreement specifically refers to "military" use by stating:

Article III

(d) The INTELSAT space segment may also, on request, and under appropriate terms and conditions, be utilized for the purposes of specialized telecommunications services, either international or domestic, other than for military purposes ....
(e) INTELSAT may, on request and under appropriate conditions, provide satellites or associated facilities separate from the INTELSAT space segment for:

(iii) specialized telecommunications services, other than for military purposes; ....

Article I(1) defines "specialized telecommunications services" as:

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303 Definitive Agreement, supra note 295, at art. II(a).
304 Martin, supra note 33, at 83.
305 Definitive Agreement, supra note 295, preamble.
Telecommunications services which can be provided by satellite, other than those (services) defined in paragraph (k) of this Article (Public telecommunications services), including but not limited to, radio navigation services, broadcasting satellite services for reception by the general public, space research services, meteorological services, and earth resources services;

(k) “Public telecommunications services” means fixed or mobile telecommunications services which can be provided by satellite and which are available for use by the public . . . between approved earth stations . . . having access to INTELSAT . . . and leased circuits . . . but excluding those mobile services not provided under the Interim Agreement and the Special Agreement prior to the opening for signature of this Agreement, which are provided through mobile stations operating directly to a satellite which is designed, in whole or in part, to provide services relating to the safety or flight control of aircraft or to aviation or maritime radio navigation.

The Agreement does not define the term “public.” However, it does specifically use the terms “user(s),” “State,” “Government(s),” “peoples,” “mankind” and “military” separately and distinctively. Generally, public means “open to all.”\(^{306}\) Does public include or exclude the military? The answer may lie in the apparent genesis of the Definitive Agreement’s “military purposes” proscriptions.\(^{307}\)

The Article III (d) and (e) military purpose proscription found its way into the Definitive Agreement through a proposal made by Algeria, in the 1969 Preparatory Committee of the Plenipotentiary Conference, and was included in the draft agreements attached to the Preparatory Committee’s Revised Draft Report of October 3, 1969 and Final Report of December 11, 1969. The Algerian language was ultimately included in the final text of the Definitive Agree-

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\(^{306}\) The Oxford English Dictionary 778 (2d ed. 1989).

\(^{307}\) The views of INTELSAT, COMSAT and the U.S. Military are contained in subsequent sections of this paper. Their interpretations would not exclude the military from the “public.”
The Algerian's remarks, contained in the Summary Record of the March 3, 1969, First Session of the Plenipotentiary Conference, may reveal the intent of the clause. "While noting that his delegation would not object to a country using channels in a regular INTELSAT satellite for security purposes, he regarded the provision by INTELSAT of separate satellites for military needs as contrary to the Preamble of the Interim Agreement."309

It is worth reiterating that even the Algerian proponents of the "military purpose" language did not object to uses of "regular INTELSAT satellite(s)" for security purposes.

So, INTELSAT is proscribed from providing "specialized telecommunications services" for military purposes. It may and does provide "public telecommunications services" to DoD and other Defense Ministries for military purposes.

4. INTELSAT & COMSAT Views Concerning Military Uses

INTELSAT’s Office of General Counsel stated that "the publicly available literature concerning the negotiating history of the INTELSAT Agreements with respect to the prohibitions in Article III . . . [makes] no mention of these provisions."310 The Counsel’s Office pointed out that the express proscription did not apply to using INTELSAT space segment to provide "public telecommunications services." Likewise, COMSAT World System Division’s view is that "there is nothing in the INTELSAT Agreement that prohibits or discourages the use of INTELSAT for either U.S. national security or intelligence purposes . . . [T]he U.S. Department of Defense, Department of State and NASA have been users of the INTELSAT system from its

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308 Memorandum for Commander, Naval Telecommunications Services under the INTELSAT Agreement, from Department of the Navy, Office of the Judge Advocate General, Deputy Assistant JAG (International Law).


310 Letter from David B. Meltzer, Senior Attorney, INTELSAT Office of General Counsel (Oct. 25, 1993).
advent . . . .”^311 INTELSAT apparently does not provide any “specialized telecommunications services,” which would require equipping satellites with special hardware, to anyone at the present time and thus, there appears to be no issue concerning military use of its satellite system.^312

C. MILITARY USE OF INTELSAT & INMARSAT-U.S.

MILITARY VIEW

The Defense Communications Agency (DCA), now the Defense Information Systems Agency (DISA), DoD’s long-haul telecommunications company, has the view that nothing in the INTELSAT Agreement precludes the military use of INTELSAT.^313 It does recognize the “specialized services” restriction. DCA concluded that all currently offered INTELSAT services are “public telecommunications services” available to the military forces of any Signatory state.^314

The DCA said that the “peaceful purposes” clause of the INMARSAT Convention “could be interpreted to prohibit military tactical use of the system for combat operations. It has not been interpreted to preclude military administrative and support use.”^315 More recently, DISA reiterated INMARSAT General Counsel’s interpretation, but concluded that the broader interpretation by COMSAT and the military services was allowable under the Convention.^316

The Judge Advocate General (JAG), U.S. Navy (USN), concluded that USN units may use INMARSAT in support of armed conflict under the auspices of U.N. resolutions,

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^312 Id.
^313 DCA Draft, supra note 33, at 5-4.
^314 Id.
^315 Id.
^316 Memorandum by the Office of the Chief Regulatory Counsel for the Special Assistant, Satellite Communications, Office of The Assistant Secretary of Defense (C3I) (Mar. 27, 1992). The Memorandum noted that, as of Mar. 15, 1992, the following INMARSAT terminals, were operating, under a 10-year DoD contract with COMSAT: Air Force-10; DISA-15; Military Sealift Command-110; Navy-56 (20 planned); Army-160; Marine Corps-30; Ready Reserves-96.
such as those which authorized the use of "all necessary means" to uphold and implement all previous United Nations Security Council resolutions. The U.S. Department of State, in its written coordination of the USN JAG opinion, stated:

The Convention does not define "peaceful purposes," and its negotiating history does not suggest a specific meaning. Under such circumstances, the term should be given the meaning that it has been accorded under the law relating to space activities. Under such a reading, "peaceful purposes" does not exclude military activities so long as those activities are consistent with the United Nations Charter. This interpretation is supported by subsequent practice, under which INMARSAT has long approved the installation of SESs aboard warships. [the INMARSAT] December 1987 legal opinion ... did not consider the effect of U.N. Security Council Resolutions.

The U.S. State Department responded to the concerns expressed by INMARSAT's Director General, in 1991, over the publicity given the military use of INMARSAT during the Gulf War and suggested to DoD that any planned INMARSAT usage beyond that in support of U.N. resolutions must be consistent with U.S. treaty obligations, under the INMARSAT Convention. The INMARSAT Director General's letter seems to suggest that INMARSAT may not agree with the U.S. interpretation concerning military use of INMARSAT capacity in support of U.N. resolutions.

The Navy has also determined that SESs may be installed and used on warships "to support all the normal functions of a warship, including the legitimate use of force in self-defense [such as] military exercises to maintain readiness,

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or legitimate uses of force to counter aggression.\textsuperscript{320} Their opinion appeared to adopt the definition that "peaceful purposes" means non-aggressive purposes, not non-military purposes. The U.S. Navy JAG has also expressed the opinion that the explicit "military purpose" limitations of Article III, INTELSAT Definitive Agreement, do not apply to public telecommunications services, which may therefore be utilized by the Navy.\textsuperscript{321}

\textbf{PART III. APPLICATION OF THE OUTER SPACE TREATY}

\textbf{A. STATE & INTELSAT/INMARSAT RESPONSIBILITY}

Much has been written about the origins and meaning of the concept of using outer space, the Moon and other celestial bodies for "peaceful purposes" referred to in the Outer Space Treaty and various United Nations General Assembly resolutions. There is little question that the provisions of the Outer Space Treaty apply to states that are parties to the Treaty and, by now, many would seem to agree that the principles found in the Outer Space Treaty, the Magna Carta of space law, have become recognized elements of customary international law applicable to all nations. It is likewise clear that states bear responsibility for the outer space activities of their commercial communications satellite operators and must ensure their activities conform to the Outer Space Treaty.\textsuperscript{322}

Although there may still be some debate, in spite of the rather unambiguous language of Article VI, over the responsibility of international organizations for such activities,\textsuperscript{323} it appears that the concept has been accepted, if not

\textsuperscript{320} Memorandum from OPJAG Code 102 (Head, LOS Branch) to OP-605, \textit{Use of INMARSAT System on Warships} (Aug. 27, 1987).

\textsuperscript{321} Memorandum for Commander, Naval Telecommunications Services under the INTELSAT Agreement, from Department of the Navy, Office of the Judge Advocate General, Deputy Assistant JAG (International Law).

\textsuperscript{322} Outer Space Treaty, \textit{supra} note 12, art. VI.

\textsuperscript{323} See, \textit{e.g.}, J.E.S. FAWCETT, OUTER SPACE, NEW CHALLENGES TO LAW AND POLICY 29 (1984) (arguing that article VI of the Outer Space Treaty is merely a "policy directive rather than a rule of law" because not all international organizations have legal
exercised.\textsuperscript{324} Article VI states, in pertinent part: "[W]hen activities are carried on in outer space, including the moon and other celestial bodies by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization."\textsuperscript{325}

I believe that States do have responsibility for the outer space activities of international organizations, such as INTELSAT, INMARSAT, regional satellite communication organizations, the United Nations and regional security organizations, such as NATO. Such a conclusion is supported by the fact that INTELSAT and INMARSAT both have juridical personalities and their Conventions indicate a commitment to adhere to the Outer Space Treaty and UNGA Resolution 1721 (XVI) in their Preambles.\textsuperscript{326}

Both the Outer Space Treaty and UNGA Resolution 1721 (XVI) state that "international law" and the U.N. Charter apply to outer space and activities in outer space. I must therefore conclude that the provisions of international law,
the Outer Space Treaty\textsuperscript{327} and the U.N. Charter\textsuperscript{328} apply to INTELSAT and INMARSAT and their activities in space.\textsuperscript{329}

B. Applicability of Article IV's "Peaceful Purposes" to "Outer Space"

If INMARSAT and INTELSAT have responsibility for their activities in outer space and States have responsibilities for the outer space activities of international organizations to which they belong as well as for the outer space activities of commercial communications satellite providers, the question remains what exactly are the obligations of satellite communications providers concerning the use of outer space for "peaceful purposes"?

Article IV of the Outer Space Treaty states:

1. States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

2. The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations, and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for


\textsuperscript{328} U.N. Charter, \textit{supra} note 27, at art. 103 (stating that in the event of a conflict between an obligation, under the Charter, and another international agreement to which a State is a party, the Charter provision prevails). I believe that U.S. obligations, under the INTELSAT Definitive Agreement, even though merely an "executive agreement" for the U.S., are subject to Article 103.

\textsuperscript{329} The INMARSAT Convention provides that it shall observe the International Telecommunications Union (ITU) Convention, "take into account" the "regulatory law" of the International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO) and "shall cooperate with the United Nations" and its Specialized Agencies.
peaceful exploration of the moon or other celestial bodies shall also not be prohibited.2

These two clauses, and others related to the issue of “peaceful purposes,” have been carefully scrutinized since the words were first embodied in the Treaty. There are generally two theories concerning the applicability of the “peaceful purposes” language to outer space. The first theory is a narrow, strict interpretation of the Treaty that concludes the clause is not applicable to “outer space.”3 The second theory is a broader interpretation of the Treaty, looking at other pertinent clauses, referenced U.N. General Assembly resolutions, the U.N. Charter, and international law, that concludes that all “outer space” must be used for “peaceful purposes.”3

If the clause does not apply to outer space, any discussion of its direct applicability to INTELSAT and INMARSAT ends because neither organization conducts activities on

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2 Outer Space Treaty, supra note 12, at art. IV. I added the numbering to the clauses for ease of reference.

3 Authors, such as Zhukov, Kolosov, Fawcett, Bridge, Prof. Dembling, Reed and Norris, hold such a view. See Gennady Zhukov & Yuri Kolosov, International Space Law 57 (1984) wherein they recognize that the Outer Space Treaty requires “total neutralization and demilitarization of celestial bodies and (only) partial demilitarization of outer space.” See also J.E.S. Fawcett, Outer Space, New Challenges to Law and Policy 15 (1984). The author states that “there is no provision that outer space shall be used exclusively for peaceful purposes.” Id. Fawcett concludes tactical and strategic uses of outer space by the military (for attack warning, surveillance, communications, intelligence, and meteorology) are not proscribed by Art. IV. See also Robert L. Bridge, International Law and Military Activities In Outer Space, 13 Akron L. Rev. 649 (1979); Reed & Norris, supra note 4, at 676 (quoting an article by the former General Counsel of NASA, Prof. Dembling, The Evolution of the Outer Space Treaty, 33 J. of Air L. & Com. 419, 433-34 (1967)); G.C.M. Reijnen, The Term “Peaceful” In Space Law, Proceedings of the Twenty-Fifth Colloquium On the Law of Outer Space, Sept. 27, 1982, at 147; Dadomar Wadegaonkar, The Orbit Of Space Law 13 (1984).

the moon or other celestial bodies. The subscribers to the first theory rely on a fundamental axiom of international law, that "if an act is not specifically prohibited, then international law permits it." Under this theory, which seems to be the view most widely held, several states and scholars have expressed their view that since the words of section (2) specifically apply only to "the moon and other celestial bodies," there is no issue as to their applicability to "outer space"; the clause is simply not applicable to outer space.

This first school of thought also notes that had the Treaty's authors wished to apply the limitation to "outer space," they would have specifically done so as they did with specific limitations concerning military bases, installations, fortifications, military maneuvers, and use of military personnel. They accurately note that the Treaty's authors specifically used the words "outer space including the moon and other celestial bodies" in other articles when they wanted a provision to apply to outer space, but not in Article IV. Since military uses were in outer space and not on the moon or celestial bodies and were the overwhelmingly predominant uses at the time the Treaty was signed and ratified, they logically reason that the authors merely recognized and did not purport to proscribe a very obvious and accepted practice.

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533 This is not to say that neither will never consider such activities.
534 Vlasic, supra note 16, at 51 n.32. Dr. V. Vereshchetin, a leading Soviet commentator, wrote that such a theory "contradicts the general principles of international law, trends in the legal regulation of activities of this type, the world's sense of legality and International norms." V. VERESHCHETIN, PREVENTION OF AN ARMS RACE, 111 (1986).
535 Bridge, supra note 331, at 664.
536 JASENTULIYANA & LEE, supra note 234. They observe that "during the debate on the Outer Space Treaty in the General Assembly several delegations questioned the propriety of excluding outer space from the coverage of the second part of Article IV because to do so would create the implication that outer space may be used for non-peaceful purposes." Reed & Norris, supra note 4, at 676.
537 See also Reed & Norris, supra note 4, at 676 (quoting an article by the former General Counsel of NASA, Prof. Dembling. Professor Dembling noted that the drafters sought a "practical solution" in light of the pre-existing military space activities of both the U.S. and U.S.S.R.).
The second theory attempts to define the clause by reference to other clauses in the Treaty and looks at the clause in the context of other international law. It looks to: (1) the Outer Space Treaty's Preamble;\(^{358}\) (2) the language of the other articles of the Outer Space Treaty;\(^{359}\) and, (3) other sources of international law, such as U.N. General Assembly resolutions and the U.N. Charter.\(^{340}\)

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558 The Preamble recognizes:
(a) "the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes;"
(b) the belief that "the exploration and use of outer space should be for the benefit of all peoples. . ."
(c) the "desire to contribute to broad international cooperation in the . . . use of outer space for peaceful purposes;"
(d) that the Treaty will "further the Purposes and Principles of the Charter of the United Nations;"
(e) UNGA Resolutions 1962 (XVIII), 1884 (XVIII), and 110 (II).

559 (a) Article I. "The . . . use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries . . . and shall be the province of all mankind;" "Outer space, including the moon and other celestial bodies, shall be free for . . . use by all States . . . in accordance with international law . . . ."
(b) Article III. "States . . . shall carry on activities in the . . . use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding;"
(c) Article IX. "In the . . . use of outer space, including the moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space, including the moon and other celestial bodies, with due regard to the corresponding interests of other States Parties to the Treaty."

540 (a) Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962, U.N. GAOR, 18th Sess. (1963). This resolution recognized the "common interest of all mankind in the . . . use of outer space for peaceful purposes," and declared that the "exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind . . . in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security . . . ."
(b) Question of General and Complete Disarmament, G.A. Res. 1884, U.N. GAOR, 18th Sess. (1962). This resolution welcomed the USSR-US agreement not to station nuclear weapons or weapons of mass destruction in outer space.
(c) G.A. Res. 110, U.N. GAOR, Annex 2 (1947). This resolution dealt with condemnation of propaganda from outer space.
(d) The Law of the Sea Conventions of 1982. This Convention, not yet entered into force, discusses "peaceful uses" of the seas.
(e) The Antarctica Treaty, June 23, 1961, 12 U.S.T. 794, 402 U.N.T. 71. This treaty proscribed "any measures of a military nature" on the continent, but not the use of military personnel for peaceful purposes.
This second school of thought concludes that the language, "common interest of all mankind," the "benefit of all peoples," "broad international cooperation," "furthering the purposes of the U.N.,” “use in accordance with international law,” “maintaining peace and security,” "promoting international cooperation” and “having regard for the interests of other States,” found in the Outer Space Treaty are principles which serve to define what uses may be made of outer space. As such, they also serve to define the meaning and applicability of the clause “peaceful purposes.”

In other words, under the second theory, outer space must be used in a positive, broadly cooperative way for the benefit of all peoples and mankind, following international law, taking into the account the interests of other States and in a manner which does not jeopardize international peace and security. Further refining this definition are the requirements, found in the U.N. Charter and U.N. General Assembly resolutions, that the threat or use of armed

(f) The U.N. Charter, T.S. No. 993, 3 Bevans 1153, entered into force Oct. 24, 1945. This document states the resolve that in order to "live together in peace," we must ensure "armed forces shall not be used, save in the common interest." It also states the UN's purpose to "maintain international peace... suppress acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations" and to "settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered" and to "refrain... from the threat or use of force... inconsistent with the Purposes of the United Nations" and "to only use force for self-defense."

(g) G.A. Res. 1348, U.N. GAOR, 29th Sess. (1958). This resolution recognized the common aim of humankind that outer space be used "for peaceful purposes only."

(h) G.A. Res. 1721, U.N. GAOR, 16th Sess. (1961). This resolution provides that outer space "may be used for peaceful purposes."


I acknowledge the considerable debate concerning the international legal effect, if any, of U.N. resolutions. See, e.g., Bridge, supra note 391, at 650, 663-64. See
force may only be used in the common interest or for self-defense. This second interpretation seems more generally appealing because it addresses the almost universal aspiration that outer space be utilized for "peaceful purposes."

C. THE MEANING OF "PEACEFUL PURPOSES"

1. Various Interpretations

Once again, there are some interpretations of the "peaceful purposes" clause, several of which have already been mentioned. The term "peaceful" can be found in virtually all U.N. documents devoted to outer space matters. Most experts agree, however, that the Outer Space Treaty does not prohibit "military use" of space. There has been a "consensus, within the United Nations that 'peaceful' more specifically equates to 'nonaggressive.'" The principal space powers have "tacitly agreed" that all military activities in outer space are permissible unless specifically prohibited. Such interpretations make the deployment of military satellites permissible. Both the U.S. and former Soviet Union have offered "tangible evidence of their support for using the space environment for peaceful purposes."


Vlasic, supra note 16, at 37.

Id. at 47 n.20. Apparently, Professor S. Gorove believed, as of 1988, that there were essentially only two competing definitions of "peaceful purposes:" one being "nonmilitary" and the other "nonaggressive." BHUPENDRA JASANI, PEACEFUL AND NON-PEACEFUL USES OF SPACE, PROBLEMS OF DEFINITION FOR THE PREVENTION OF AN ARMS RACE 7 (1991). In most multilateral treaties, in which the terms "peaceful activities" are used, it is interpreted to mean "non-military." Some emerging space powers suggest "peaceful" should mean total absence of the military and or conflict. G.C.M. Reijnen, The Term "Peaceful" In Space Law, Proceedings of the Twenty-Fifth Colloquium On the Law of Outer Space, Sept. 27, 1982, at 146.

Reed & Norris, supra note 4, at 678. They point out that neither the U.N. Charter nor international law prohibit nonaggressive military activities. Consequently they are permissible. See also CARL Q. CHRISTOL, SPACE LAW, PAST, PRESENT, AND FUTURE 16 (1991).

Vlasic, supra note 16, at 38.

JASANI, supra note 345, at 16.

CHRISTOL, supra note 356, at 15. See infra note 378.
The original Soviet view was that “peaceful purposes” meant no “military” use of outer space, a view that they later softened as their military satellite programs came to fruition. The Soviets have always claimed that their uses of outer space were “peaceful” and “scientific.” The U.S. view has always been that the phrase “peaceful purposes” means no “aggressive” use of outer space, a view it has adhered to from the beginning of the space age. The problem with the US interpretation is that it merely substitutes the problems of interpretation of “peaceful” to the word “non-aggressive.” The benefit of such a definition

350 Vlasic, supra note 16, at 40. Vlasic states that Soviet scholars have never deviated from this position.
351 Bridge, supra note 331, at 658.
352 Reed & Norris, supra note 4, at 679.
353 Vlasic, supra note 16, at 40. Vlasic would disagree. It is his belief that the later U.S. reliance on the “nonaggressive” use definition was a change from its earlier espousal of “peaceful” uses.
354 Such a view would be in accord with the requirements of the U.N. Charter in that the Charter’s limitations on the threat or use of force have no “spatial” limits. See Gennady Zhukov and Yuri Kolosov, International Space Law 51 (1984).
355 The U.S. has historically and consistently argued that “peaceful” means “non-aggressive.” Bridge, supra note 331, at 658. National Aeronautics and Space Act of 1958, 42 U.S.C. § 2451(a) (1988). This statute established U.S. policy, “[T]he Congress hereby declares that it is the policy of the United States that activities in space shall be devoted to peaceful purposes for the benefit of all mankind.” In addressing Congress on the establishment of NASA, President Eisenhower emphasized the “concern of our Nation that outer space be devoted to peaceful and scientific purposes.” Reed & Norris, supra note 4, at 674. Reed & Norris also refer to the May 11, 1978, Presidential Directive, which established U.S. space policies, wherein President Carter stated the U.S., “is committed to the exploration of outer space for peaceful purposes and the benefit of all mankind . . . .” The Directive also provided the U.S. will use space for self-defense, and to support certain military uses. The Commercial Space Launch Act, 49 U.S.C. § 2601(1) (1988). This statute provides that “peaceful uses of outer space continue to be of great value and to offer benefits to mankind.”
356 Does “aggressive” mean “use of armed force?” Does the purpose or intent behind the use of armed force define “aggressive?” May armed force be used in a “non-aggressive” manner? Does “non-aggressive” merely mean “peaceful purposes?” In fact, the Outer Space Treaty, specifically Art. IV, expressly prohibits some activities which would not be considered “aggressive,” such as the establishment of military installations or weapons testing. See Bridge, supra note 331, at 659. “Aggression is the use of armed force by a State against the sovereignty, territorial integrity or political independence of another State or in any other manner inconsistent with the Charter of the United Nations, as set out in this definition.” G.A. Res. 3314 U.N. GAOR, 29th Sess. Supp. No. 142, U.N. Doc. A/9631 (1975), set forth in Reed & Norris, supra note 4, at 682. This definition sounds remarkably similar to that of
is that it appears to somewhat parallel the interpretation of the terms "aggression" and "peace" found in the U.N. Charter.\textsuperscript{357} The U.S. definition, which has not explicitly adopted the definition of U.N. General Assembly Resolution 3314, is overly restrictive. There are times when "aggression" is permissible (e.g., for the common interest, peace-keeping or enforcement or individual or collective self-defense).

2. Selected Terms

Many years ago, one scholar noted the words "peaceful purpose" must be distinguished from the words "peaceful use." She was criticized for having made a meaningless distinction.\textsuperscript{358} It appears, however, that the use of the word "purpose" in Article IV "brings in the notions of both intent and of consequences; the activity must not be designed to terminate in some use of force contrary to international law."\textsuperscript{359} There is no indication that the Outer Space Treaty drafters intended the term "purpose" to have any "special meaning." Thus, whether or not a "use" was peaceful depends on its "purpose."\textsuperscript{360}

Other authors have argued over whether the use of the adjective "exclusively" in Article IV (e.g., shall be "used ex-

\textsuperscript{357} Essentially, nations have agreed in the Charter to act "peacefully," a term which the Charter then elaborates with specific examples, e.g., suppression of acts of aggression, no threats or use of force, save in the common interest or for (legitimate) self-defense.


\textsuperscript{359} J.E.S. Fawcett, Outer Space, New Challenges to Law and Policy 109 (1984). See also Jerome Morenoff, World Peace Through Space Law 296 (1973), wherein the author examines the legality of the U.S. use of reconnaissance satellites in light of its "intent." He notes that such use could become allowable (and it has), whether it is a military or non-military activity, if there is a "rightful intent."

clusively for peaceful purposes") is meaningful. The term is not used in the U.N. Charter, the Antarctica Treaty, or most U.N. General Assembly resolutions applicable to space. "Exclusive" means, among other things, "limited to that which is designated." The word first appeared in U.N. General Assembly Resolution 1148 in Nov. 14, 1957, which incorporated a proposal to develop an inspection system to ensure objects launched into space would be "exclusively for peaceful and scientific purposes." Later, U.N. General Assembly Resolution 1348 (1958) recognized that the common aim of humankind was that outer space was to be used "for peaceful purposes only." The term "exclusive" merely emphasizes that outer space is to be used solely for "peaceful purposes."

In light of the object and purpose of the Outer Space Treaty, the term "purpose" should be given its "ordinary meaning" according to the rules of treaty construction set forth in the Vienna Convention, discussed below. "Purpose" is generally defined as "an intended or desired result; end, aim; goal." Subsequent State practice appears to confirm that "use" is to be distinguished from "purpose." Take, for example, the "Star Wars" program which never came to fruition. Although arguably "non-peaceful" or "aggressive" uses might have been made of space, the stated purpose of the program was to defend the U.S., a peaceful "purpose" self-defense. Therefore, the drafters very deliberately distinguished "use" from "purpose" and intentionally chose the latter. As a result, through the use of the

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561 INMARSAT's General Counsel takes the view that the term "exclusive" adds no meaning to the clause in the INMARSAT Convention. See also Reijnen, supra note 345, at 148.
562 THE RANDOM HOUSE COLLEGE DICTIONARY 461 (1980).
563 Vlasic, supra note 16, at 38.
564 Id. at 39.
565 THE RANDOM HOUSE COLLEGE DICTIONARY 1074 (1980).
566 There is a debate whether the use of outer space for "self-defense" constitutes a "peaceful purpose." The U.S. view, articulated by the State Department and various DoD organizations, mentioned above, is that such a use is for a "peaceful purpose." INMARSAT's General Counsel's view, referred to above, would appear to be that such use would not fall within the definition of "peaceful purposes."
term "purpose," the drafters of the Outer Space Treaty incorporated a "rightful intent" test.\(^{367}\)

3. **Self-Defense**

There has been considerable debate concerning the extent to which "self-defense" may exist and still be considered "peaceful." Article 51 of the U.N. Charter, which permits individual or collective self-defense in the event of an "armed attack," is an exception to the Charter's principle that U.N. members will refrain from the use or threat of the use of armed force against another State.

The definitions of "self-defense" run "the gamut from an innate natural right of self-preservation, afforded by the doctrine of necessity, to that highly restricted response resulting from an instant overwhelming necessity leaving no choice of means and no moment for deliberation."\(^{368}\) Self-defense today must be looked at as a broader concept that "developed as the sophistication of our society has increased."\(^{369}\) Many believe a pre-Charter norm of customary international law persists which does not require an armed attack as a perquisite to legitimate self-defense.\(^{370}\) Most believe that there is a right to "anticipatory" self-defense,\(^{371}\) "particularly in this age of weapons that have the capability to inflict awesome destruction within minutes of the launching of an attack."\(^{372}\) Others believe that an armed attack must be imminent in order to justify the use of armed force in self-defense.\(^{373}\) This latter view is myopic. As for-

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\(^{367}\) See Fawcett, *supra* note 359 and accompanying text.


\(^{369}\) *Id.* at 221.


\(^{371}\) Ian Brownlie, *International Law and the Use of Force by States* 362 (1963), n.16. (noting that Article 51 itself states that, "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense . . . ").

\(^{372}\) Bridge, *supra* note 331, at 660.

\(^{373}\) Reed & Norris, *supra* note 4, at 683.
mer U.S. President Kennedy said in reference to nuclear weapons, "[w]e no longer live in a world where only the actual firing of weapons represents a sufficient challenge to a nation's security to constitute maximum peril . . . ." Maintaining international peace and security today requires nations to anticipate threats. Self-defense has two basic legal requirements, both of which must meet the test of reasonableness: necessity and proportionality. Although the U.S. may not face the threat of imminent armed attack from Iraq, the use of communications satellites in the process of monitoring Iraq's military readiness, however, is reasonable, necessary and in proportion to the threat posed by Iraq. The "necessity" test would be met by the fact that control over potential aggressive acts by Iraq is needed to secure the preservation of states threatened by it. The use of the satellites would reduce the danger, thus legitimizing a claim of anticipatory self-defense.

The U.S. has continuously invoked the right of self-defense to justify reconnaissance overflights. Use of reconnaissance satellites has become an accepted practice and is considered a use of space for "peaceful purposes." The purpose behind military use of commercial communications satellites differs only to a small degree.

Whatever definition one gives to the concept of "self-defense," the ultimate test of whether an action is legitimate self-defense is the approval of the U.N. Security Council rather than the opinion of each individual nation asserting such a right. It should be kept in mind that neither the U.N. nor the vast majority of its member States have protested most unilateral efforts of the U.S. to maintain world peace, thus giving U.S. an imprimatur of approval.

574 Morenoff, supra note 368, at 236.
575 Id. at 225.
576 Id. at 233.
577 Id. at 16.
579 Morenoff, supra note 368, at 226.
4. Peacekeeping

There is little doubt that "peacekeeping" operations can substantially benefit from space technology's ability to observe, gather, organize and transmit information. Unfortunately, as the U.N. recognizes, the U.N. has a very serious command and control problem. The U.N. is attempting to remedy this problem by creating a new command and control center to keep the U.N. Headquarters in touch with peacekeeping operations throughout the world.

"Today, almost 60,000 U.N. peacekeepers participate in 13 peacekeeping missions ranging from Somalia to Cambodia to Bosnia . . . [and] more peacekeeping operations have been initiated in the past five years than in the previous 43 years . . . ." Without peacekeeping, "[n]ations will not have the security needed to develop; without development, people will fight endlessly . . . and without democracy, neither long-term economic development nor long-term peace and stability will be possible."

Article 42 of the U.N. Charter gives the Security Council the authority to take enforcement action necessary to "maintain or restore international peace and security." The U.N.'s use of military forces provided by member States is an essential element of world order and has become a well-established practice supported by all major powers. Because of the U.N.'s notable elasticity in the exercise of peacekeeping functions, it is difficult to identify a precise definition of peacekeeping. Regardless, the U.N. has recognized that traditional peacekeeping operations may have

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382 Id.
384 Id. at 487.
386 Id.
to be "complemented by more forceful measures, including preventive deployments and peace-enforcement."\textsuperscript{387}

Since the U.N. Security Council is, essentially, the ultimate judge of what constitutes legitimate peacekeeping or peace-enforcement actions and since the U.N. will not act for non-peaceful purposes, actions by member States in support of U.N. resolutions, including tactical military use of commercial communications satellite capabilities, can hardly be questioned. The maintenance of international peace and stability is a fundamental obligation of all States.\textsuperscript{388}

\section*{D. Rules of Treaty Interpretation}

Traditionally, the law of treaty interpretation was based on customary international law principles.\textsuperscript{389} In 1980, however, the Vienna Convention on the Law of Treaties came into force. Although only approximately fifty-nine countries are parties to it, the Vienna Convention on the Law of Treaties\textsuperscript{390} is accepted by many non-parties, including the U.S.,\textsuperscript{391} as defining the rules of treaty law.\textsuperscript{392}

Article 26 of the Vienna Convention requires States to perform treaty obligations in good faith (Pacta Sunt Servanda). Article 31 sets forth the rules of treaty interpretation. Treaty terms are to be interpreted in accordance with their ordinary meaning given the terms in context, and in light of the treaty's object and purpose. The "context" includes any other agreement made by the states regarding the conclusion of the treaty, and any instrument made by a

\begin{itemize}
\item \textsuperscript{387} Boutros Boutros-Ghali, \textit{An Agenda for Peace: Preventive Diplomacy, Peace-making and Peacekeeping}, U.N. A/47/277 (1992).
\item \textsuperscript{388} SINGH, \textit{supra} note 332, at 86-87.
\item \textsuperscript{389} CARTER \& TRIMBLE, \textit{supra} note 343, at 79.
\item \textsuperscript{391} M. JANIS, \textit{AN INTRODUCTION TO INTERNATIONAL LAW} 15 (1988).
\item \textsuperscript{392} The Vienna Convention itself specifies that it is only applicable to treaties concluded after its enactment. Article 3 of the Convention specifies that the non-applicability of the Convention to an international agreement shall not affect the legal force of such an agreement.
\end{itemize}
party in connection with the conclusion of the treaty accepted by the other party; any subsequent agreements regarding interpretation of the treaty; any subsequent practice in its application which establishes the agreement of the parties regarding its interpretation; and any rule of international law applicable to the relations between the parties. Finally, a special meaning shall be given a term if it is established that the parties so intended.

Article 32 of the Convention permits reference to supplemental means of interpretation when, after using Article 31, the treaty's meaning remains ambiguous, obscure, or leads to a result which is manifestly absurd or unreasonable. The preparatory work of the treaty and the circumstances of its conclusion are permissible supplemental means for interpretation under Article 32.

A strict interpretation of Article IV's "peaceful purposes" clause would seem to leave little room for doubting that it was meant to apply only to the moon and other celestial bodies not "outer space." Thus, one might be inclined to agree with the first theory regarding the interpretation of the clause.

The object and purpose of the Treaty, however, are also quite clear: the use of outer space is to be for the benefit and in the interests of all mankind and all countries in accordance with international law, including the U.N. Charter (U.N. Resolutions). It shall be conducted in a manner which will maintain international peace, security, and cooperation giving due regard to corresponding interests of other States. International law and the U.N. Charter require that the use of outer space not involve armed force or the threat of force, unless it is in the "common interest" or for legitimate "self-defense." Thus, it appears the ordinary meaning of each of those clauses, when viewed in context of the Treaty as a whole and given its object and purpose, supports the interpretation given the Treaty by those who advocate the second theory. How can this be resolved?

One utilizes "supplementary" means of interpretation only when the result of an Article 31 (Vienna Convention)
analysis leads to absurd or unreasonable results or the meaning remains obscure or ambiguous. The interpretation under the second theory hardly leads to absurd or unreasonable results; the Outer Space Treaty's concept of using outer space for "peaceful purposes" was not novel; nor were any "nonpeaceful" uses being made of outer space when the Treaty was signed. True, the military was using space but not in a nonpeaceful way. Likewise, acceptance of the interpretation of the provisions under theory two does not leave them ambiguous or obscure. Thus, reference to "supplementary" means of interpretation, although useful, is unnecessary.

Moreover, the practices of the parties to the Outer Space Treaty subsequent to its signing and entry into force evidences, if not establishes, their tacit agreement regarding the treaty's interpretation. Based on publicly available information, outer space has never been found to have been used for "nonpeaceful purposes," as that phrase is generally defined.939 It may be argued that nations have threatened to use it in a militarily threatening way, most notably the U.S. "Strategic Defense Initiative," or "Star Wars." But, such uses have yet to materialize. The only objections concerning the use of outer space have been from equatorial states and deal with assignment of geostationary orbital slots.934 The second theory's interpretation is further supported by the development of customary international law in this area.

PART IV. WHAT IS "PEACE?"

"Making peace is harder than making war."935 Adlai Stevenson

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939 This assumes that outer space does not include that area in which ballistic missiles operate. JASANI, supra note 345, at 17 (noting that dedicated space weapons have yet to be deployed).

934 Reed & Norris, supra note 4, at 678. Vlasic, supra note 16, at 45 (stating that "[n]o State has ever formally protested the U.S. interpretation of the phrase 'peaceful purposes' in the context of Outer Space activities").

A. Sociological Definitions of "Peace"

In the words of the Old Testament, the "prospects of war and peace are easily discernible: apocalyptic visions as opposed to the hope that one day nations 'shall beat their swords into ploughshares and their spears into pruning hooks: nation shall not lift sword against nation, neither shall they learn war any more.'"396 "Peace" was characterized by Greek philosophers as "the greatest good."397 While it "is an integral part of all humanist ideals of society" there is a wide disparity of views about what it means.398 In the context of space law, Alan Vasborne called it a "utopian dream."399

At least one definition of "peace" is "freedom from, or cessation of, war or hostilities."400 It is "misconceived when it is thought of only as . . . an absence of the condition of war . . . it is an irreducibly value-laden concept."401 One author opined that the phenomena of war and peace change with fluctuations in military techniques.402 "Peace is not a state, but a process," according to Johan Galtung.403 The term "peaceful" has been defined "in all reputable dictionaries of the English language" essentially as "disposed or inclined to peace; aiming at or making for peace; friendly, amicable, pacific."404

398 Id. at 166.
400 SHORTER OXFORD ENGLISH DICTIONARY 1533 (1973).
403 Bonisch, supra note 397, at 167.
404 Vlasic, supra note 16, at 44 (citing THE COMPACT EDITION OF THE OXFORD ENGLISH DICTIONARY, II 2105 (1971)).
David Felder suggests that if we define "peace" too broadly "we end up doing things that are not really related to peace" and if we define it too narrowly "success at achieving our goals is not enough to bring peace." He believes equating peace with "disarmament" is too narrow a definition and defining it as "ending all conflicts" is too broad. He suggests that an adequate definition is "the non-violent settling of conflicts between nations." Although peace is usually thought of as the absence of open fighting or war, drawing upon Thomas Hobb's observations three centuries ago, Felder concludes "peace" is really a climate where the will to resolve conflict through battle is absent. Peace is not merely "disarmament," but rather, "peace" is the climate in which the will to resolve international disputes through armed conflict is absent. "Peace" is not a static concept but rather a dynamically changing one.

"Peace," like "war," is merely an extension of politics. If one reflects on the purposes of the U.N. Charter, one can observe that the entire structure of the U.N. is based upon an attempt to develop rules and mechanisms that promote peace and avoid the use of armed force. It follows that any use of outer space which does not violate the Charter's prohibitions or the specific prohibitions of treaties related to Outer Space would be permitted.

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406 Id.
407 Id. at 687.
408 Id.
409 Clausewitz defined "war" as "[m]erely the continuation of policy (politics) by other means." Carl von Clausewitz, On War 87 (Michael Howard and Peter Paret eds. & trans., 1976).
410 Treaties are "one of the instruments for making, if not preserving the peace. . .they 'ought' to be kept." Kenneth Schmitz, Hegel On War and Peace, in Conceptions of Peace In the History of Philosophy 135 (1987).
B. Customary International Law

Generally, before a usage may be considered as having attained the status of customary international law, two tests must be satisfied: (1) there must be a repetition or recurrence of the acts giving rise to the rule (the usage element); and (2) the mutual conviction that the recurrence is the result of a customary rule (opinio juris). The duration of a usage needed for a rule to become one of customary international law varies. The opinio juris element essentially requires that states adhere to the "rule" because they believe it is binding.

A rule becomes one of customary international law when a significant majority of States, including States whose interests are specifically affected, act extensively and virtually uniform in accordance with it because they believe it is binding. Evidence of customary international law may be found in diplomatic correspondence, official statements, military and administrative practices, treaties, and judicial decisions. In the U.S., the President plays the principle role in articulating U.S. views of customary international law.

For example, in the late 1800s, when an American ship collided with a British ship, the Scotia, the U.S. Supreme Court found that rules of navigation, established by custom, usage and mutual consent were considered "obligatory" by over thirty seafaring states and amounted to customary international law. "Like all the law of nations, (the law of the sea) rests upon the common consent of civilized communities. It is of force not because it was prescribed by any superior power, but because it has been generally accepted as a rule of conduct . . . ."

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412 CARTER & TRIMBLE, supra note 343, at 111.
413 Vlasic, supra note 16, at 45. See also IRVIN L. WHITE, DECISION-MAKING FOR SPACE 10 (1970).
414 CARTER & TRIMBLE, supra note 343, at 219.
415 Id.
416 The Scotia, 81 U.S. (14 Wall.) 170 (1871).
Treaty provisions may simply be a declaration of existing customary international law or, if there is not such a declaration, treaty provisions may become so with the passage of time through general acceptance by other states.\textsuperscript{417} The consensus is that the Outer Space Treaty, rather than creating new law, merely amounted to a codification of existing principles of customary international law applicable to outer space, which already had been expressed in U.N. General Assembly resolutions and which had already gained acceptance internationally.\textsuperscript{418} Thus, in the opinion of many scholars, the inclusion in the Outer Space Treaty of the concept of use of outer space for "peaceful purposes" was merely a restatement of then existing customary international law.\textsuperscript{419}

There are also certain norms of international law so fundamental that states may not legally agree to contradict them. These norms are referred too as Jus Cogens.\textsuperscript{420} Under Article 53 of the Vienna Convention, treaties which conflict with Jus Cogens are void. In order for a norm to become Jus Cogens, it must be deeply and universally held. Such norms include proscriptions against slavery and genocide, for example.\textsuperscript{421} Is the use of outer space for "peaceful purposes" such a fundamental norm? If it is not, it has closely approached that status since the norm has been universally adhered too; it is considered fundamental; it has not been changed; and it is found in almost every international agreement relating to outer space. If it was Jus Cogens before the entry into force of the Outer Space Treaty, the Outer Space treaty could not have changed it.

\textsuperscript{417} Bridge, \textit{supra} note 331, at 653. (citing \textsc{ores Hackworth, Digest of International Law} 17 (1940)).
\textsuperscript{418} Bridge, \textit{supra} note 331, at 655, 664. The prevailing view is that, "they may be taken as statements of what the law is; whether they create law or are merely evidence of customary law." Bridge, \textit{supra} note 331, at 664.
\textsuperscript{419} \textsc{morenoff, supra} note 368, at 185.
\textsuperscript{420} \textsc{Carter & Trimble, supra} note 343, at 98.
\textsuperscript{421} Weiss, \textit{supra} note 370.
C. CONCLUSIONS ABOUT PEACE & MILITARY USE OF COMMUNICATION SATELLITES

I disagree with those who believe that in light of today's technology there is no longer any meaningful relevance to distinctions between "peaceful" and "nonpeaceful" uses of space. Peace benefits all nations. There are any number of military space activities which serve to stabilize world peace, such as verification of arms control agreements and detection of missile launches. Such activities are considered "peaceful."

The use of satellites for communications, remote sensing and navigation has generally been regarded as a "peaceful use" of outer space. It is accepted that the military use of satellites for communications, navigation, photoreconnaissance, gathering signals intelligence, ocean surveillance to locate and track warships detection of nuclear explosions, ballistic missile early warning, and weather monitoring is in accord with contemporary international law. There is little doubt that communications satellites contribute to effective military forces which can serve as a deterrent to conflict. Some might view this as the creation of an "offensive" or "nonpeaceful" activity. At least one author has proposed that "the use of space objects to assist in and aid military operations" is a "nonpeaceful" use of space, which may be too myopic a view.

422 "As technology contributes to blur the distinction between military and civilian (communications satellites) capabilities (which can be used for military purposes), the notion of peaceful and nonpeaceful uses of space may appear increasingly irrelevant if one continues to rely on criteria traditionally relied upon to differentiate military and civilian applications." SOURBES & BOYER, supra note 360, at 73.
423 Reed & Norris, supra note 4, at 681.
424 Id. See also SOURBES & BOYER, supra note 360, at 57.
425 JASANI, supra note 345, at 2.
426 Id. at 1.
427 Vlasic, supra note 16, at 50.
428 JASANI, supra note 345, at 9.
It has been suggested that the characteristics of "peaceful uses," identifiable under treaty obligations, appear to be: openness of information; "transparency" in use (everyone can see how it is being used); and "international cooperation" (all countries wishing to participate may).\(^{430}\) Although military "uses" may not have met all three of these tests, the "purpose" of most known military uses of commercial communications satellites has been for "peaceful" ends.

The military uses made of today's communications satellites overwhelmingly contribute to the world "climate of peace." It is evident that customary international law required that "outer space" be used for "peaceful purposes" long before that language was incorporated into the Outer Space Treaty. Proponents of a strict reading of Article IV of the Outer Space Treaty, which would limit the "peaceful purposes" concept solely to the moon and other celestial bodies, have not given due weight to customary international law, accepted rules of treaty interpretation, and the entire context of the treaty in which those words are found.

Those who urge that there is no distinction between peaceful "purposes" and peaceful "uses" do the greatest injustice to the concept. Communications satellites may be "used" to support tactical military operations involving the use of armed force, yet not have a non-peaceful "purpose." The Gulf conflict is perhaps the best illustration of the distinction between "use" and "purpose." The coalition forces, INTELSAT, and INMARSAT need not be embarrassed about the obvious military uses made of commercial communications satellites there when "use" of commercial satellites was in support of tactical military operations. The "purpose" of the use, however, was in support of U.N. resolutions to restore a "climate of peace."

Customary international law and the Outer Space Treaty clearly require that use of all "outer space" must be for "peaceful purposes." This proscription is applicable to all commercial communications satellite systems and enforcea-

\(^{430}\) *Id.* at 95.
ble by either their "flag" state or, in the case of international satellite communications organizations, by their member state Parties.

PART V. CONCLUSIONS

However appealing, total demilitarization of space does not appear practical either politically or technically.\footnote{Reed & Norris, supra note 4, at 682.}

A. COMMENT ON COMMUNICATION SATELLITE PROVIDERS & USER INTERPRETATIONS

The requirement that all "outer space" be used for "peaceful purposes" applies, either directly or indirectly, to all commercial communications satellite service providers whether they are individual, privately owned companies, international, or regional organizations. Thus, the fact that the INTELSAT Agreements do not specifically say that INTELSAT services may be used only for "peaceful purposes" is of little consequence. INTELSAT services may only be used for "peaceful purposes."

Unlike INMARSAT, the INTELSAT Agreement specifies the provision of "specialized communications" for military purposes. At this time, INTELSAT does not provide such "specialized services" so the matter is not an issue. INTELSAT may and does provide the military with "public telecommunications services." There is no indication that any special meaning was attached to those terms. A review of the negotiating history of the Agreement does not show that the military was intended to be excluded from the definition of the term "public." Should INTELSAT eventually offer such "specialized communications," it may not provide them for military purposes.

As a further indication of INTELSAT's deference to international law, it must be noted that the INTELSAT Agreement's Preamble "considers" U.N. General Assembly Resolution 1721 language that satellite communications be made available to all nations and on a non-discriminatory
basis. It also "considers" relevant portions of the Outer Space Treaty and, in particular, Article I. Article I specifies that "outer space" be used "for the benefit and in the interest of all countries." This latter language is the language of "peaceful purposes" under the second theory of interpretation of Article IV of the Outer Space Treaty.

The U.S. State Department has come the closest to properly defining what constitutes the use of space for "peaceful purposes" under the INMARSAT Convention. That is, "'peaceful purposes' does not exclude military activities so long as those activities are consistent with the United Nations Charter." That definition could apply equally to the "peaceful purposes" provisions of the Outer Space Treaty, as well. It is very close to the definition of "aggression" found in U.N. General Assembly Resolution 3314 (XXIX): "'aggression' is the use of armed force by a State against the sovereignty, territorial integrity, or political independence of another State or in any manner inconsistent with the Charter of the United Nations . . . ." The definition given to Article 3(3) "peaceful purposes" clause by INMARSAT's General Counsel is, understandably, too narrow. While INMARSAT recognizes that the clause does not preclude military uses of INMARSAT services, it places overly-restrictive limits on military use when it involves armed conflict. INMARSAT does not consider satellite usage for "self-defense" as use for a "peaceful purpose." It would limit military use during armed conflict to purposes related to distress, safety, and humanitarian purposes. INMARSAT's procedures permit its Signatories some flexibility in determining exactly which uses are for "peaceful purposes." This flexibility is allowed because a competent governmental authority, not INMARSAT or its Signatories, must certify that the proposed use is for "peaceful purposes." It does not appear INMARSAT makes its own assessment concerning the nature of the usage. INMARSAT Counsel's overly-con-

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servative position results from concentration on the term “use,” rather than looking to the “purpose” behind the use, which is the crucial test.

COMSAT's view more closely reflects the true meaning of the “peaceful purposes” provision than INMARSAT’s interpretation. COMSAT recognizes that one cannot make the “peaceful purposes” determination based upon the type of cargo carried by the vehicle on which the satellite earth terminal is installed. Likewise, COMSAT recognizes INMARSAT services may be used in actual military actions in support of U.N. resolutions or humanitarian assistance.

COMSAT, however, unduly restricts its provision of INMARSAT services with its interpretation that requires one to determine if the vehicle on which a terminal is installed is “primarily offensive” in nature and whether the vehicle is involved in actual armed conflict. COMSAT says if both tests are answered “yes,” then INMARSAT use is impermissible; if answered “no,” then INMARSAT use is permissible. One cannot reasonably nor practically base Convention compliance on the type of vehicle on which a terminal is installed, nor does international law require a determination of whether or not the satellite earth terminal is taken into actual combat. For example, a terminal mounted on an M-60 tank painted U.N. white which is being used in a U.N. peacekeeping operation to suppress aggressor mortar fire would fail both tests proposed by COMSAT because the terminal is on an “aggressive-type” vehicle and being used in actual combat. Yet, use of communications satellites in support of such peacekeeping is without question for a “peaceful purpose.” Like so many other definitions, the COMSAT view does not afford the term “purpose” due weight and unnecessarily focuses on the word “use.”

Likewise, the interpretation given Article 3(3) of the INMARSAT Convention by the DoD, which parallels COMSAT’s, is an overly-restrictive one not required by international law. DoD suggests that military tactical uses during combat operations may be prohibited. Military administrative and support functions are not proscribed. The
U.S. Navy's interpretation is accurate in that it would permit INMARSAT usage in support of U.N. resolutions and to counter aggression for self-defense.

B. APPLICATION OF "PEACEFUL PURPOSES" CRITERIA

Both the U.N. Charter and international law require that the use of outer space not involve the use of armed force unless the use of such force is in the "common interest" or for self-defense. In other words, the use of the satellite communications must be for a "peaceful purpose." As Galtung said, "Peace is not a state, but a process." "Peace" is a climate in which the will to resolve international disputes through armed conflict is absent. If the U.N. or regional alliances, permitted under the U.N. Charter, determine that a "climate of peace" can only be attained through armed deterrence or actual application of armed force, their purposes would be "peaceful." Therefore, any use of communication satellites in support of such operations would be for a "peaceful purpose" and permitted under international law, the Outer Space Treaty, and the Conventions of both INMARSAT and INTELSAT.

If any one nation believes that a "climate of peace" can be attained only by armed deterrence or use of actual armed force, an assessment of its actions must be made under the criteria of the U.N. Charter or the charter of any regional alliance to which it may belong. So, for example, the U.S. mission in Grenada in the 1980's might be judged to have had a "peaceful purpose" because it was conducted under the "peacekeeping" auspices of the Organization of Eastern Caribbean States.433 The British purportedly acted in self-defense during their Falkland Islands operations. The multinational coalition's operations in Iraq, pursuant to U.N. Security Council resolutions, was conducted in the "common interest."434 So, INMARSAT or INTELSAT satellite communications utilization in those operations should

433 Carter & Trimble, supra note 343, at 1327.
434 See generally Russett & Sutterlin, supra note 385, at 69-83.
be considered to have met the "peaceful purposes" standard.

The proposed definition of "peaceful purposes" does take into account situations where a country acts solely in its own national interests with the announced purpose of creating a "climate of peace." If the "peaceful" purpose was questionable, perhaps such as when Iraq invaded Kuwait in order to restore its borders, or when the U.S. mined the Nicaraguan harbors, or when the U.S. sent troops into Panama in 1989 pursuant to its individual treaty obligations to Panama, it would not pass the criteria under either the U.N. Charter or international law. Use of commercial satellite services during such situations would be impermissible. Unfortunately, it would be unlikely that any commercial communications satellite organization would discontinue service to its largest customers based on its use of the system for "nonpeaceful" purposes. It is also unlikely that any international organization would expel a member for misuse of communication satellites. Although litigation in the International Court of Justice is always a possibility, the most likely remedy for such a violation of international law is the opprobrium found in global political opinion.

In the end, the resolution of whether or not a military use of commercial communications satellites is for a "peaceful purpose" resides with the U.N., the Parties to the Outer Space Treaty, and the Parties to the Communication Satellite agreements in the case of international organization service providers. Not one instance exists in which proceedings were initiated under the formal dispute mechanisms of any of those institutions related to illegal use of commercial communications satellites.


456 Carter & Trimble, supra note 343, at 1274-79.

457 Outer Space Treaty, supra note 12, at art. XIII. The treaty provides that any practical questions concerning international organization's use of outer space shall be resolved by the States Parties to the Treaty either with the international organization or with State members who are Parties to the Outer Space Treaty.
C. Conclusion

Maintenance of international peace and security is a fundamental obligation of all States. The "new world order," the change in the defense policies of the U.S., Russia, and regional alliances, the exponential increases in the technology and mobility available to mankind all make instantaneous global communications absolutely essential. Satellite communications are essential to the functioning of any military force today which may be deployed on little notice to remote areas of the globe lacking a developed communications infrastructure.

While the U.N. has played an important role in working toward that end, nations have not been entirely successful in achieving peace. Thus, there has been an increase in "peacekeeping" and "peace-enforcing" actions by the U.N., other regional alliances, and by the sole remaining "superpower," the United States. The U.N. Charter has no "spatial" limits and permits the suppression of acts of aggression and the use of force in self defense for the "common good." "Peace," of course, is the greatest "good."

International law required that "outer space" be used for "peaceful purposes" long before that concept was embodied in the Outer Space Treaty. The concept was and is an accepted axiom of customary international law and continues to be recognized in the majority of space-related international agreements and U.N. declarations or resolutions enacted today. Although the U.N. Charter requires states to maintain peace, the Outer Space Treaty explicitly confirmed that requirement was applicable to Outer Space. States have an obligation, under both the U.N. Charter, the Outer Space Treaty, and the international satellite organization agreements to which they are parties to use outer

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439 U.S. "peacekeeping" efforts should be seen as permissible "self-defense" measures. The "self-defense" concept must allow for such actions as society's technology grows increasingly sophisticated. If such efforts lessen the danger to international peace and security and are not condemned by the U.N., they must be found to be legitimate.
space for peaceful purposes and to ensure that commercial operators, under their jurisdiction, do the same. INTELSAT and INMARSAT and their member States are likewise obligated, under Article VI of the Outer Space Treaty and customary international law, to ensure their activities in outer space are serving "peaceful purposes."

Article 3(3) of the INMARSAT Convention merely reiterated the Organization's already existing obligation under international law. There is no indication why the "peaceful purposes" concept in the INMARSAT Convention should be interpreted any differently than the concept of "peaceful purposes" found in Article IV of the Outer Space Treaty. The interpretations given Article 3(3) to date have been unnecessarily restrictive or based on unmanageable criteria. The crucial distinction between the term "purpose" which is used in Article 3(3) and Article IV and the term "use" has been largely overlooked.

Use of outer space for "peaceful purposes" means that outer space must be used in a broadly cooperative way for the benefit of all peoples and mankind following international law. Nations must take into account the interests of other states and use space in a manner which does not jeopardize international peace and security. The threat or use of armed force may only be used in the common interest for self-defense or to suppress aggression.

That definition does not rule out the military use of outer space or military use of commercial communications satellites. It does not prohibit the use of commercial satellite communications in tactical military operations in which armed force is used. Whether a military use is for "peaceful purposes" cannot be determined by the type of vehicle on which a satellite terminal is mounted, by the vehicle’s cargo, by the nature of the communications traffic, or by whether the vehicle or personnel using the equipment are engaged in military operations involving the use of armed force. Satellite earth stations need not be "turned-off" merely because the vehicle on which they are mounted are engaged in an operation involving the use of armed force.
The U.S. interpretation which equates "peaceful purposes" with "nonaggression" is overly restrictive and merely creates other definitional problems. This is unless it is interpreted to have the meaning accorded the term "aggression" in U.N. General Assembly Resolution 3314, which essentially states that an action is not "aggressive" if taken consistently with the U.N. Charter. In any case, it is unquestionable U.S. policy to use outer space exclusively for "peaceful purposes." If the U.S. or any other nation chooses to limit its use of commercial communications satellites to an extent greater than that required by international law, they may certainly do so. It does not appear, however, that nations are limiting themselves in that way. Rather, the trend appears to take full advantage of legally permissible uses.

There may be some truth to Vlasic's comment that the principal space powers have "tacitly agreed" that all military activities in outer space are permissible unless specifically prohibited.\textsuperscript{440} To date, no uses of communications satellites have been found impermissible in any international fora. This may be true due not only to technological limitations, but to the fact that states have not yet attempted to test the outermost limits of the "peaceful purposes" proscription.

The definition of the "peaceful purposes" principle found in both the Outer Space Treaty and the INMARSAT Convention is much more malleable than has been previously suggested. If commercial communication satellites are used by the military in a manner which contributes to creating a "climate of peace," their use will be legally permissible.\textsuperscript{441}

\textsuperscript{440} See supra note 347 and accompanying text.

\textsuperscript{441} After reviewing this article, INMARSAT's General Counsel has decided to revisit its policy with more emphasis on "purpose" rather than "means" involved. INMARSAT Message (April 28, 1994).
Comments