CHAPTER 39

International Arbitration—Satellite Communications: Arbitrator Perspective*

SYNOPSIS

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§ 39.01 Introduction: International Arbitration Practice in the Satellite Communications Sector

The commercial satellite industry offers rewards for parties who participate in this key economic sector, but it also presents unique challenges. Despite continued improvement in space-related technologies and general stability within the industry, the deployment of any new telecommunications satellite continues to be a high-risk venture. For this reason, satellite industry contracts are carefully calibrated to identify and allocate risks among the various parties involved. Even so, disputes often arise in this context, especially considering the large monetary amounts at stake. When controversies do develop, for reasons indicated in this chapter, the commercial satellite industry normally looks to international arbitration as the preferred method of resolving industry disputes.[1]

[1] There is a body of public international law relating to the exploration and use of outer space and the

§ 39.02 The Commercial Satellite Industry

[1] Introduction to Commercial Satellite Industry

Satellites are a critical component of the global telecommunications infrastructure. They operate alongside terrestrial facilities to deliver voice, data, and video signals across oceans and over vast regions of the earth's surface. Satellites provide essential communications to rural locations and other areas where terrestrial facilities are unavailable, and they provide vital communications links for first responders when weather-related or other emergencies interrupt the use of terrestrial facilities.

Geostationary satellites (GEOs)—also known as "geosynchronous" satellites—are placed in orbital locations at approximately 22,300 miles directly above the equator. A GEO satellite remain stationary relative to the earth's surface and provides coverage over a wide geographic expanse. The substantial majority of commercial satellites providing telecommunications services operate from geostationary orbit.

Low earth orbit satellites (LEOs) circumnavigate the globe between approximately 300 and 1,240 miles above the earth's surface. Constellations of LEO satellites are used for various communications applications, such as the Iridium and Globalstar mobile satellite systems, the Orbcomm two-way data communications service, and remote sensing satellite systems that provide useful images of the earth's surface.[2]

Satellites, also called "space stations," communicate with earth stations on the ground, transmitting and receiving voice, data, and video signals between the satellite and earth stations. Ground stations also are used for telemetry, tracking, and control (TT&C) of operating satellites. Some satellite networks incorporate inter-satellite links to permit communications directly between one or more space stations in a satellite constellation.

The communications satellite industry is highly regulated by government agencies responsible for overseeing the construction, launch and operation of satellite networks. The Outer Space Treaty, to which approximately 100 nations are signatory, provides that "State Parties to the Treaty shall bear international responsibility for national activities in outer space. . .whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty."[3] The Outer Space Treaty also states that "[t]he activities of non-governmental entities in

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resolution of disputes between and among states. Those subjects, however, are beyond the scope of this chapter, which focuses on private disputes surrounding the deployment of commercial telecommunications satellites.

[2] Medium earth orbit satellites (MEOs)—also known as intermediate circular orbit (ICO) satellites—also circumnavigate the globe at higher elevations from approximately 5000 to 12,425 miles above the earth's surface. Satellite-based navigation systems, such as the U.S. Global Positioning System (GPS) and the Russian GLONASS system, deploy satellites in medium earth orbit.

[3] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies art. 6, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 (the "Outer Space Treaty").

outer space. . .shall require authorization and continuing supervision by the appropriate State Party to the Treaty."[4] International conventions also provide for the registration of objects launched into outer space and for international liability for damage caused by space objects.[5] In view of these and other international responsibilities concerning activities in outer space, nations regulate the deployment of telecommunications satellites by commercial operators.

In the United States, for example, the Federal Communications Commission (FCC) regulates the construction, launch and operation of commercial satellites, and it assigns radiofrequency (RF) spectrum and orbital resources for use by authorized satellite operators.[6] The Department of Transportation's Federal Aviation Administration (FAA) oversees the launch of commercial satellites to ensure that launch and re-entry activities are conducted safely.[7] Regulatory agencies in other countries perform similar functions related to the deployment of telecommunications satellites.

Because RF spectrum and orbital slots are relatively scarce resources, and to ensure that satellite communications systems do not cause harmful interference to each other, the International Telecommunications Union (ITU), an arm of the United Nations headquartered in Geneva, maintains an international regulatory framework to facilitate technical coordination between and among all operating satellites.[8]

Other regulatory regimes affect and complicate the commercial satellite business. The U.S. International Traffic in Arms Regulations (ITAR), for example, regulate and monitor the transfer of satellite-related technical data from U.S. persons to non-U.S. parties. As discussed in Section 39.07[3] *below*, international satellite arbitrations involving technical disputes are subject to all applicable ITAR requirements, a factor that adds complexity to the conduct of those arbitrations.

[2] Satellite Industry Participants

[a] Principal Players

The principal players in the commercial satellite industry are the *satellite system operators*, which deploy satellite systems and offer telecommunications services to customers on a wholesale or retail basis; *spacecraft manufacturers*, which design, construct, and deliver satellites to the system operators on the ground or in-orbit;

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[4] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies art. 6, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 (the "Outer Space Treaty").

[5] *See* Convention on Registration of Objects Launched Into Outer Space, Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15; and Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187.

[6] The deployment of commercial satellites, and in particular the communications-related functions, are regulated by the FCC's International Bureau. *See* FCC International Bureau, http://www.fcc.gov/ib/.

[7] The launch of commercial satellites is regulated by the FAA's Office of Commercial Space Transportation. *See* http://www.faa.gov/about/office_org/headquarters_offices/ast/about/research_development/.

[8] *See generally* International Telecommunication Union, www.itu.int/.

launch service providers, which provide launch vehicles to launch satellites and place them in orbit; and *insurance carriers*, which insure risks that can occur during the course of a satellite's construction, launch and operational phases. While these are the main satellite sector participants, other industry players include customers who purchase or lease transponder capacity from satellite system operators, entities that finance satellite projects, and subcontractors that supply satellite components to the prime manufacturers.

[b] Satellite System Operators

By way of background, global satellite systems first were deployed by intergovernmental organizations (IGOs). The U.S. Congress passed the Communications Satellite Act of 1962 to foster the creation of a global satellite communications system.[9] After enactment of this legislation, the United States and 84 other nations formed the International Telecommunications Satellite Organization, commonly known as "INTELSAT," to provide satellite communications services—principally the delivery of international telephone calls and the relay of television signals—to customers around the world. INTELSAT was financed and controlled principally by its "Signatories," typically governmental communications entities responsible for interfacing with the INTELSAT program.[10]

As an IGO, INTELSAT enjoyed many privileges that were not accorded to private companies, including immunity from lawsuits, exemption for taxation, and exclusive or preferential market access for its satellite signals.[11] In 2001, with the encouragement of the United States, INTELSAT privatized by transferring virtually all of its assets and liabilities to a private entity, Intelsat, Ltd., a holding company organized in Bermuda, and relinquishing the privileges and immunities it had enjoyed as an IGO.[12]

Other IGOs also deployed satellites and offered communications services regionally. Eutelsat, for example, which was created to develop a satellite-based telecommunications system serving Europe, originally was formed in 1977 as an IGO. Eutelsat privatized in 2005.[13] Intersputnik, created in Moscow as an IGO by the Soviet Union and other Eastern bloc nations, continues today to provide satellite communications

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[9] Pub. L. No. 624, 76 Stat. 419 (1962).

[10] *See* United States Government Accountability Office, Telecommunications—Intelsat Privatization and the Implementation of the Orbit Act 1 (2004). Unlike the Signatories of other countries, the U.S. Signatory to INTELSAT was a *private* entity, COMSAT Corporation, created by the U.S. Congress to implement the United State's role in the INTELSAT system.

[11] *See* United States Government Accountability Office, Telecommunications—Intelsat Privatization and the Implementation of the ORBIT Act 6-7 (2004).

[12] United States Government Accountability Office, Telecommunications—Intelsat Privatization and the Implementation of the ORBIT Act 6-7 (2004). By the time INTELSAT became a private commercial operation in 2001, a total of 148 nations had become parties to the INTELSAT agreement. United States Government Accountability Office, Telecommunications—Intelsat Privatization and the Implementation of the ORBIT Act 5 n.6 (2004).

[13] *See* Eutelsat Communications, http://www.eutelsat.com/eutelsat/history.html.

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services as a restructured IGO.[14]

Even before the major IGOs privatized, the trend over recent decades increasingly shifted towards the commercialization of space activities by private entities. Today, the fixed-satellite services (FSS) sector, *i.e.*, the delivery of voice, data, and video communications via satellite from one fixed location on earth to another fixed location, reflects a highly competitive marketplace with numerous privately-operated satellite systems. In addition to the privatized Intelsat, SES Global, a satellite group headquartered in Luxembourg, operates FSS satellite systems that provide communications coverage on a global scale.[15] Many regional and national commercial satellite operators provide FSS as well, including a privatized Eutelsat (Europe), Telesat (Canada), JSAT Corp. (Japan), Russian Satellite Communications Company (Russia), Hispasat (Spain), Star One (Brazil), Singtel Optus (Singapore/Australia), Arabsat (Saudi Arabia), AsiaSat (Hong Kong), Indian Space Research Organization (India), Thaicom (Thailand), and other FSS satellite operators.[16]

Mobile-satellite services (MSS), *i.e.*, the delivery of communications via satellite to and from *mobile* earth stations (including mobile handsets), is another vibrant commercial satellite service sector. Like its FSS counterpart, MSS systems first were deployed by a separate IGO known as the International Maritime Satellite Organization (Inmarsat), which was formed in 1979 by sea-faring nations to provide maritime communications via satellite to ships at sea. Inmarsat privatized in 1999 when it transferred its assets to a newly-created U.K. company.[17] Today Inmarsat offers maritime, aeronautical, and land-mobile services around the world.

Currently the MSS market is highly competitive and comprised of numerous commercial service providers. Besides a privatized Inmarsat, satellite system operators Iridium and Globalstar provide MSS coverage on a global scale.[18] Regional operators also offer MSS services in various parts of the world, including Skyterra Communications (North America, northern South America, Central America, the Caribbean, Hawaii and coastal waters);[19] Thuraya (the Middle East, Europe, large parts of Africa, and Central and South Asia);[20] and ACeS (Indonesia, Philippines and other parts of east Asia).[21] The European Commission also recently selected two companies,

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[14] *See* About Intersputnik, http://www.intersputnik.com/about/.

[15] *See* Intelsat, http://www.intelsat.com/network/satellite/; SES, http://www.ses.com/ses/.

[16] For summary information about these and other top FSS operators, *see* Peter B. de Selding, *The List—Top Fixed Satellite Service Operators*, Space News, July 6, 2009, at 10-13.

[17] *See* Comsat Corporation et al., *Memorandum Opinion, Order and Authorization*, 16 FCC Rcd 21661, 21687 (2001).

[18] *See* Iridium Everywhere, http://www.iridium.com/; and Globalstar, http://www.globalstar.com/en/.

[19] *See* Skyterra Communications Products & Solutions, http://www.skyterra.com/products/index.cfm.

[20] *See* Thuraya Dynamic Technology, http://www.thuraya.com/en/article/flexible-dual-mode-technology.html.

[21] *See* ACeS Asia Cellular Satellite Coverage, http://www.acesinternational.com/corporate/index.php?fuseaction=System.coverage.

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Inmarsat Ventures Ltd. and Solaris Mobile Ltd., to deploy MSS satellite systems across Europe.[22]

Other satellite operators provide broadcasting-satellite services (BSS), *i.e.*, the delivery of television signals director to consumers at home.[23] BSS providers include DIRECTV in North America and parts of South America;[24] Echostar in the U.S.;[25] SES in Europe, Africa, Asia and the Americas;[26] Eutelsat in Europe, North Africa and the Middle East;[27] and STAR TV in Asia.[28]

Satellite digital audio radio services (SDARS), *i.e.*, the delivery of audio channels via satellite to fixed and mobile devices, is provided by Sirius XM in North America,[29] and by 1Worldspace in parts of Africa and Asia.[30] A European SDARS system is scheduled to commence operations in 2011.[31]

Apart from telecommunications services, other satellite operators provide earth-exploration satellite services (EESS), also known as "remote sensing," *i.e.*, the delivery via satellite of remotely-sensed images of the earth's surface to ground stations throughout the world. Remotely-sensed data is used in connection with geological, environmental, agricultural, deforestation, coastal study, mapping and other commercial applications. Commercial remote sensing satellite operators include GeoEye,[32] DigitalGlobe,[33] Spot Image,[34] and the Indian Space Research Organization.[35]

[c] Satellite Manufacturers

The design, manufacture, and testing of a telecommunications satellite is an

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[22] *See* Europa Press Release, Memo 09/237, Mobile Satellite Services in Europe: Frequently Asked Questions, (2009), http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/237&format=HTML&aged=0&language=EN&guiLanguage=en.

[23] Depending on the geographic location and specific frequencies used, BSS services also are called Direct Broadcast Satellite (DBS) or Direct-to-Home (DTH) services.

[24] *See* DIRECTTV Technology, http://www.directv.com/DTVAPP/content/directv/technology; and DIRECTTV Vive la Experiencia de Imagen, http://www.directvla.com/.

[25] *See* Dish Network, http://www.dishnetwork.com/faq/about_dish_network/default.aspx.

[26] *See* http://www.ses-worldskies.com/worldskies/services/media/direct_2_home/index.php.

[27] *See* Eutelsat Communications Broadcast Services, http://www.eutelsat.com/products/broadcast-dth.html.

[28] *See* Star, http://www.startv.com/corporate/corporate_faq.htm.

[29] *See* XM Radio, http://www.xmradio.com/; and Sirius, http://www.sirius.com/.

[30] *See* 1worldspace Corporate Company Overview, http://www.1worldspace.com/corporate/.

[31] *See* Richard Wilson, *Europe's first satellite radio service aims for 2011 launch*, http://www.electronicsweekly.com/Articles/2009/05/12/46062/europes-first-satellite-radio-service-aims-for-2011-launch.htm.

[32] *See* GeoEye, http://www.geoeye.com/CorpSite/.

[33] *See* Digital Global, http://www.digitalglobe.com/.

[34] *See* Spot Image, http://www.spot.com/?countryCode=US&languageCode=en.

[35] *See* http://www.isro.org.

extremely complex, highly-technical endeavor. Once a satellite is launched into space, there is no opportunity for on-site repair. Satellites operate in an extremely harsh environment and are subject to temperature extremes, solar wind, and other challenging space-related conditions. Thus, the manufacture of a communications satellite is a painstaking process involving sophisticated design engineering, exacting construction standards to meet a customer's technical specifications, rigorous quality control, redundant systems, and the testing of every major component (and the satellite itself) under conditions replicating the rigors of outer space.

A telecommunications satellite is comprised of a "bus" or platform, a communications payload, and a number of major subsystems, including propulsion, power supply, attitude control, mechanical, thermal control, and TT&C. In the manufacture of a typical communications satellite, various subcontractors and vendors supply components or subsystems to the prime manufacturer. Euroconsult, a consulting company in the satellite industry, recently provided statistics as to estimated weight ranges for commercial satellites to be deployed between 2012 and 2018. Lower-range weights range from 3,300 pounds to 7,716 pounds (24%); medium-range weights range from 7,716 pounds to 12,125 pounds (36%); upper-range weights range from 12,125 pounds to 14,330 pounds (27%); and some very large satellites weigh more than 14,330 pounds (13%).[36]

The cost of a commercial geostationary FSS satellite generally falls within a range of $100 to $200 million, or roughly $150 million on average; and the cost of next-generation MSS and broadband satellites likely will exceed $200 million.

Not surprisingly, only a handful of lead companies in the United States, Europe and Asia engage in commercial satellite manufacturing. The prime manufacturers of large commercial satellites in the United States are Boeing,[37] Lockheed Martin[38] and Space Systems/Loral,[39] with Orbital Sciences[40] manufacturing smaller commercial space stations. The principal European satellite manufacturers are EADS/Astrium[41] and Thales Alenia Space.[42] Russian companies also manufacture satellites, and Mitsubishi Electric constructs commercial satellites as well.[43]

[d] Launch Service Providers

The launch of a communications satellite into geostationary or lower orbit also is an

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[36] Peter B. de Selding, *Space Forecast Predicts Satellite Production Boon*, Space News, January 15, 2009 at http://www.space.com/news/090615-satellite-futures.html (*citing* Rachel Villain, Euroconsult, *12th World Market Survey*, 2009).

[37] *See* Boeing, http://www.boeing.com/defense-space/ic/sis/index.html.

[38] *See* Lockheed Martin, http://www.lockheedmartin.com/ssc/.

[39] *See* Space Systems Loral, http://www.ssloral.com/html/products/products.html.

[40] *See* Orbital, http://www.orbital.com/SatellitesSpace/.

[41] *See* EADS Atrium, http://www.astrium.eads.net/en/space-product-catalogue/product-catalogue.

[42] *See* Thales, http://www.thalesgroup.com/Markets/Space/Home/.

[43] *See* Mitsubishi Electronic, http://global.mitsubishielectric.com/products/space/index.html.

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inherently risky endeavor. The process involves placing a costly satellite aboard an expensive launch vehicle to be delivered, in the case of a geostationary satellite, to a specific orbital slot (*e.g.*, 97 W.L., 144 E.L.) approximately 22,300 miles above the earth's surface. The rockets used to launch satellites are capable of placing a satellite into orbit approximately 120 miles above the earth, at which point the satellite is released from the launch vehicle and boosted into higher orbit by its own motors.

Satellite launches must be accomplished in ideal weather conditions during so-called "launch windows." If the weather fails to cooperate or another problem arises, the launch is rescheduled until another appropriate launch window. Various calamities can occur during the launch of a satellite. For example, a satellite might be destroyed by fire during a failed launch, separated from its launch vehicle and be lost, or rendered useless if it fails to reach its intended orbit.

The cost to launch a typical telecommunications satellite into geostationary orbit ranges from approximately $70 to $130 million (or roughly $100 million on average), depending on the characteristics of the satellite and launch vehicle that is used. Only a relatively few private enterprises launch commercial telecommunications satellites, including the lead companies Arianespace,[44] International Launch Services,[45] and Sea Launch.[46]

[e] Satellite Insurance Carriers

Given the high levels of investment and risk inherent in the deployment of a telecommunications satellite, insurance is a critical component in any satellite enterprise. There is a specialized space insurance market comprised of a number of leading underwriters and various re-insurers accepting a portion of the risk in return for a share of the premiums.

Pre-launch insurance, which provides coverage for the physical loss or damage to a satellite or launch vehicle during the construction phase, typically is procured by the manufacturer of the satellite or launch vehicle. Pre-launch insurance premiums are based on the insured value of the satellite or launcher, and normally run around 0.45% to 0.65% of those values.

Launch and in-orbit insurance is the largest and most costly aspect of satellite insurance. While large satellite operators occasionally self-insure, most operators insure against risks that can occur during the launch, in-orbit testing, and positioning of a satellite in orbit. Operators also insure against risks for a specified period of operation, typically one year, after launch. The principal risks are the destruction of a launch vehicle and loss of a satellite during a failed launch, as well as operational anomalies or failures that degrade a satellite's early in-orbit performance.

Premium rates for launch plus one-year coverage have been relatively volatile over time, depending on the industry's experience with launch failures and in-orbit satellite

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[44] *See* Arianspace, http://www.arianespace.com/launch-services/launch-services-overview.asp.

[45] *See* International Launch Services, http://www.ilslaunch.com/about-us/.

[46] *See* Boeing, http://www.boeing.com/special/sea-launch/.

anomalies. Premium rates historically have fluctuated from 8% to more than 20% of the overall costs of the satellite, launch vehicle, and insurance. Premiums currently run around 13% of these aggregate values. Consequently, launch plus one-year insurance on a $100 million satellite and a $100 million launch today would cost approximately $26 million (13% of $200 million), plus an additional $3.4 million (*i.e.*, a 13% premium to cover the $26 million insurance premium), for a total cost of approximately $29.4 million.

Satellite operators normally procure additional in-orbit insurance beyond the first year to cover risks throughout a satellite's expected life, or for most of the satellite's expected life. Premium rates for in-orbit operations after the first year historically have ranged from approximately 1.75% to 3% of the depreciated value of the satellite.

Satellite insurance policies provide for payment upon the total loss of a satellite, or upon a constructive total loss of a satellite, which in each case typically is defined in terms of the loss of either capacity or useful life equaling or exceeding 75%. When such a loss occurs, the full insurance coverage amounts are paid, subject to offset for any salvage value. Insurance policies also cover the partial satellite losses due to in-orbit performance anomalies.

§ 39.03 Satellite Industry Contracts

[1] Addressing the Satellite Industry's High-Risk Nature

Because the deployment of a telecommunications satellite is a relatively risky venture, parties to satellite industry contracts typically identify and allocate the various risks associated with the project.[47] Insurance plays a critical role in this process because insurance policies permit the parties to insure against losses that can occur during a satellite's construction, launch or operational phases. One author rightly observed that "[d]isputes in this field are characterized by risk management, which is at the core of space contracts, as well as manufacturing, launching and exploitation contracts."[48]

[2] The Satellite Construction Process

[a] Satellite Manufacturing Contracts

Satellite operators enter into procurement agreements with satellite manufacturers for the design and construction of telecommunications satellites. While there is increased pressure in a competitive market to speed up satellite deliveries, the construction process for the design, manufacture, and testing of a GEO satellite normally takes from two to three years. Manufacturing contracts specify a firm date for delivering a satellite to the operator, and they also include intervening milestones for completing specific aspects of the project.

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[47] Laurent Lévy, *L'Arbitrage Privé en Matière Spatiale*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009 at 4.

[48] Laurence Ravillon, *Space Law and Mechanisms for Dispute Settlement*, Eur. Centre for Space L. No. 28, 2 (2004) (*citing* S. Gorove, *The Growth of Space Law Through the Cases*, 24 J. Space L. 1-21 (1996); and *Cases on Space Law, Texts, Comments and References*, J. Space L., University of Mississippi, (1996)).

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Manufacturers deliver satellites to operators for their acceptance (and transfer of risk of loss) either *on the ground*, in which case the operator arranges independently with a launch provider to launch the satellite into orbit, or the manufacturer delivers the satellite to the customer for acceptance (and transfer of risk of loss) *in orbit*, in which case the manufacturer arranges for the launch of the satellite.

Manufacturers design and construct satellites in accordance with detailed technical specifications—provided by the operator or developed collaboratively by the manufacturer and operator—to ensure that a satellite's performance conforms to the operator's telecommunications service objectives. Manufacturers also furnish detailed reports and briefings to the satellite operator throughout the construction process, and provide the operator, its employees, and technical advisors with access to the manufacturer's facility and personnel. Participation by the operator in the construction process does not, however, relieve the manufacturer of its performance obligations under a satellite construction contract.[49] In the final stages of construction, before a satellite is presented to an operator for acceptance, a satellite undergoes extensive testing to ensure that it can withstand the harsh realities of space and that it will operate in accordance with the applicable technical specifications.

[b] Allocating Risks

There are two main industrial risks during a satellite's construction phase. First, an accident causing damage to a satellite can occur at any time, although mishaps most frequently occur during integration of the subsystems, testing, or transport of the satellite to the launch pad.[50] Second, delay in the construction process can occur because of an accident that damages the satellite, or because other factors interrupt construction and prevent a manufacturer from delivering a satellite on time.

Manufacturing contracts typically address these construction-related risks in a straightforward manner and place the responsibility for accidents occurring during the satellite's construction phase on the manufacturer. Construction contracts normally provide for the manufacturer to procure and maintain insurance against the risk of loss or damage to a satellite during construction, and they also require subcontractors to provide insurance for their potential liabilities as well.[51]

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[49] Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 39. ("These rights are meant to enable the buyer of the satellite to ensure the compliance by the manufacturer with the quality control procedures of the contract. They do not, however, discharge the manufacturer from liability.").

[50] Alexis Mourre notes that "[d]amage on the ground most generally occurs in the final phase of manufacture, for two reasons. On the one hand, the imminence of the satellite acceptance date places significant pressure on the manufacturer, who may be tempted to speed up the process as much as possible, with the risks attached to such acceleration. On the other hand, the ultimate phase of manufacture includes the most dangerous operations of integration and testing (such as electromagnetic compatibility tests), during which the assembled satellite will be activated at real power." *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, France), Feb. 5, 2009, at 41.

[51] For a photo of a serious mishap during satellite construction, *see* Stephen Clark, *Back from the*

Delay by a manufacturer in meeting milestones or a satellite delivery date presents an independent risk during satellite construction. Satellite operators often can be pressed for competitive reasons to acquire and place their satellites into operation quickly. For this reason, satellite construction contracts often provide that "time is of the essence," and they include specific remedies for the benefit of the operator in the event of a manufacturer's delay. Typically an operator will be entitled to liquidated damages for delay in a manufacturer's performance, usually after a specified grace period, with such liquidated damages increasing as the delay becomes longer. If delay becomes significant and the cap on liquidated damages have been reached, the operator can terminate the construction contract for manufacturer default and demand return of payments made.

Construction contracts also contain "limitation of liability" provisions aimed at protecting the satellite manufacturer from financial exposure beyond remedies specified in the contract. In the case of a manufacturer's delay, for example, contracts often provide that liquidated damages, and the right to terminate the contract if delay becomes substantial, are the operator's sole and exclusive remedies; and the operator typically waives or disclaims all other remedies or recourse against the manufacturer on account of delay. Not all satellite operators readily accept waiver or limitation of liability provisions, or at least absolute ones, and this is an area where manufacturer and operator perspectives often diverge.

The extent to which "limitation of liability" provisions are enforceable is an issue that recurs in international satellite arbitration. The outcome of such disputes usually turns on the surrounding facts and the law applicable to the parties' contract. As discussed more fully in Section 39.03[3][c] *below*, a satellite manufacturer may be unable to limit its liability for a satellite defect if, for example, the defect is the result of a manufacturer's gross negligence or willful misconduct.

Thus, parties to construction contracts identify and allocate responsibility for accidents and delay during a satellite's construction phase. Disputes between manufacturers and operators nevertheless arise in this context. When the parties are unable to reconcile their differences, they normally turn to international arbitration to resolve such disputes, as illustrated by the following examples:[52]

- Satellite operator Eutelsat filed a claim in an International Chamber of Commerce (ICC) arbitration for approximately $191 million against manufacturer Alcatel Space for severe damage to the Eutelsat W1 satellite during a May

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Brink: Broken Satellite fixed and ready, SpaceFlight Now, Feb. 1, 2009, http://spaceflightnow.com/delta/d338/090201preview.html.

[52] This chapter reveals certain basic information concerning a number of satellite industry arbitrations as reported in the trade press. As noted in § 39.04[4] *below*, arbitration generally is confidential and this feature makes arbitration preferable to court litigation. Many satellite manufacturers and operators are public companies, however, and are required by securities laws to report material financial developments. Thus, certain basic information about some satellite industry arbitrations has become public; but proprietary information, trade secrets and other data vital to these companies and their businesses is protected in international arbitration.

1998 fire in the test chamber at Alcatel's manufacturing facility. Eutelsat claimed that Alcatel's "gross negligence" was responsible for the incident and damage to the satellite.[53]

- An ICC arbitration panel ruled in July 2001 that satellite operator New Skies Satellite was within its rights to cancel a construction contract for the KTV satellite with manufacturer Astrium because of delays in delivery of the satellite. Astrium was required to return to New Skies the payments it had made for construction of the satellite.[54]

Disputes between manufacturers and satellite operators (or their insurers) also arise once a satellite is placed into orbit and begins its operational phase, a subject which is discussed in Section 39.03[3][a] *below*.

[3] In-Orbit Satellite Operations

[a] In-Orbit Satellite Problems

Technical anomalies can arise during in-orbit operations that cause a satellite's performance to deteriorate or fail altogether. Most in-orbit satellite problems result either from a latent manufacturing defect or an operating error, rather than from external forces (*e.g.*, a satellite collision with orbital debris). When in-orbit anomalies do occur, satellite operators, manufacturers and insurers try to learn the cause of the problem, ascertain who (if anyone) is responsible, and determine which party or parties should bear the risk of a degraded or failed satellite. Disputes arising in the context of in-orbit operations frequently are resolved through international arbitration.

Satellite manufacturers seek to limit their liability for in-orbit anomalies or satellite failures on the theory that satellite operators should assume post-launch risks and insure against them. However, as noted above, operators are not always willing to accept absolute waivers of liability for satellite malfunctions in orbit.

[b] Incentive Payments

Construction contracts typically provide for the manufacturer to share certain operational risks with the satellite operator. For example, satellite construction contracts normally provide for the manufacturer to earn "incentive" payments (equal to 10%-20% of the satellite's overall cost) over the course of a satellite's useful life, but only if the satellite continues to operate in accordance with its performance specifications.[55] Thus, one risk-sharing technique included in construction contracts permits a satellite operator to withhold incentive payments from the manufacturer in

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[53] Peter B. de Selding, *Eutelsat Pursues Redress for Ruined Satellite*, Space News, April 24, 2000.

[54] Peter B. de Selding, *Arbitration Court Rules in Favor of New Skies*, Space News, July 27, 2001.

[55] Laurent Lévy and Alexis Mourre each discuss the use of annual incentive payments in the context of satellite construction contracts. Laurent Lévy, *L'Arbitrage Privé en Matière Spatiale*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009 at 5; and Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 39, respectively.

the event a satellite does not perform as warranted.[56]

Manufacturing contracts also include "limitation of liability" clauses providing that, except for the loss of incentive payments, the manufacturer shall not be responsible for any other loss or liability stemming from a satellite's degraded performance or failure.[57] A satellite operator, therefore, may retain incentive payments in the event of an in-orbit anomaly, although the operator still can experience significant losses in the case of a serious satellite malfunction or outright failure. For this reason, in-orbit insurance is a critical component of the overall risk-sharing arrangement among satellite project participants.

[c] Limitation on Liability

Disputes between satellite manufacturers and operators (or their insurers) arise over the validity or enforceability of limitation of liability clauses. Challenges to liability limitation clauses are brought in the United States on a variety of legal theories, including that manufacturers should not permitted to limit their liability in cases of gross negligence or willful misconduct.[58]

Other countries also construe limitation of liability clauses to be unenforceable in certain circumstances. Alexis Mourre provides the following useful summary, for example, of the laws of various European jurisdictions concerning limitation of liability clauses and their enforceability in cases of a substantial breach or gross negligence:

> **French law** disregards contractual limitations or exclusions of liability in case of gross negligence. . ., or when the breach of ones party's obligations deprives the contract of its substance. . . . **Belgian law** refuses to assimilate gross negligence and fraud, but takes into account the 'objective' breach which deprives the contract of its substance. . . . Since the House of Lords overturned its previous doctrine in 1980, **English law** seems to validate contractual exclusion of liability even in the presence of fundamental breach. . . . **In Italy**, art. 1229 of the Civil Code provides that limitations or exclusions of liability clauses are not applicable in the case of gross negligence, and case law disregards clauses which exonerate the debtor of its liability for breach of an essential obligation. . . . **German law** seems similarly oriented. The situation in each country is therefore quite different, and it is important to examine carefully the legal regime which will apply to the exclusion of liability before choosing the contractual law.[59]

Courts have ruled on the validity of limitation of liability clauses incorporated in satellite contracts. For example, a dispute arose between Arabsat and Aerospatiale in connection with the malfunction of the Arabsat 1A satellite launched in 1985. Aerospatiale, the manufacturer of the satellite, invoked a contract clause excluding

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[56] Manufacturers and operators also sometimes negotiate arrangements for compensating an operator in the event a specific subsystem, such as power supply, does not function as warranted.

[57] Laurent Lévy notes in this regard that "[i]n principle, the intent of the parties is that responsibility of the satellite contractor is exhausted by the loss of part or all of the incentive payments." *L'Arbitrage Privé en Matière Spatiale*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009 at 5.

[58] *See generally* 17A Am. Jur. 2d Contracts § 286 (2004); and 17A C.J.S. § 271 (1999).

[59] Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 42 n.14 (citations omitted).

warranties for hidden defects ("garantie des vices caches"). The Paris Court of Appeals, in a decision dated June 15, 1988, held that the "seller, satellite manufacturer, was bound to know of the possible defects and that, in accordance with section 1645 of the Civil Code, it could not exclude or limit its guaranty."[60] Thus, the Paris court relied on applicable French law to invalidate a contract's limitation of liability clause.

In another satellite case, *Appalachian Insurance Co. v. McDonnell Douglas Corp*, which did not involve a satellite anomaly, but instead a defective power assist module (PAM) manufactured by McDonnell Douglas that failed to propel a Western Union satellite into orbit, the California Court of Appeals held that limitation of liability clauses were fully enforceable.[61] The court rejected various legal theories presented by insurers of the Western Union satellite who sought to invalidate a limitation of liability clause based on unconscionability, contravention of public policy, strict liability, and negligence. The court held that the parties intended by their contract to limit the manufacturer's liability, and that: "[i]n this context, of a highly specialized, risky new technology, it was not commercially unreasonable for the parties to agree Western Union would obtain insurance to protect it against the risk of loss rather than to have McDonnell Douglas warrant performance of the upper stage rocket."[62]

Arbitrators who confront challenges to limitation of liability clauses in satellite contracts are presented with a fundamental dilemma. Should they uphold the contract's terms and find invariably that losses resulting from an in-orbit anomaly or failed satellite must be borne by the satellite operator or its insurers? Or should arbitrators follow the law applicable to the contract generally, which might invalidate a limitation of liability clause based on a manufacturer's gross negligence, willful misconduct, or other circumstances?

Certain authors have observed that a recurring use in satellite contracts of risk allocation and limitation of liability clauses might reflect a specific "usage" within the satellite industry, and that such a "usage" might allow national laws that nullify liability limitation provisions to be disregarded.[63] Satellite manufacturers would be expected to adhere to this view, but satellite operators (and their insurers) likely would not. This debate between satellite manufacturers, who seek to limit their liability following delivery of a satellite, and satellite operators, who seek to hold manufac-

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[60] Alexis Mourre and Laurence Ravillon each discuss this French court decision, Red Sea v. Aerospatiale, CAMAT and Arabsat, Paris Court of Appeals, June 15, 1988. Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 41; and Laurence Ravillon, Laurence Ravillon, *Space Law and Mechanisms for Dispute Settlement*, Eur. Centre for Space L. No. 28, 2 (2004).

[61] Appalachian Insurance Company, et al. v. McDonnell Douglas Corporation, et al., 214 Cal. App. 3d 1, 262 Cal. Rptr. 716 (Cal. App. 4th Dist. 1989).

[62] Appalachian Insurance Company, et al. v. McDonnell Douglas Corporation, et al., 214 Cal. App. 3d 1, 26, 262 Cal. Rptr. 716, 731 (Cal. App. 4th Dist. 1989).

[63] Laurent Lévy, *L'Arbitrage Privé en Matière Spatiale*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009 at 6-7; and Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 43-44.

turers to some standard of care, will continue to unfold in contract negotiations and undoubtedly in future international arbitration as well.

[d] In-Orbit Insurance

Requiring satellite operators to procure in-orbit insurance is consistent with the risk allocation and liability limitation framework in satellite manufacturing contracts. Thus, such contracts require the operator to obtain insurance to cover in-orbit anomalies and frequently provide for the operator to require its insurers to waive all rights of subrogation against the manufacturer. Such provisions shift the risk of a breach of the manufacturer's responsibilities to the operator, which some authors have suggested might remove incentives for a manufacturer to be diligent in its performance.[64] It has been noted, on the other hand, that manufacturers have a strong incentive to maintain their business reputations, particularly in a relatively small and competitive satellite industry.[65]

Claims relating to in-orbit satellite anomalies are not paid automatically by the insurers without question. Indeed, underwriters normally require detailed information concerning the nature and extent of a claimed loss, determine whether it is covered by the policy and, if so, to what extent (*e.g.*, a partial loss, total loss or constructive total loss). In certain cases, insurers will want to discern if facts surrounding potential anomalies known to a manufacturer or operator were properly disclosed to the insurers prior to launch.[66] These and other insurance-related factors lead to disputes when claims relating to a satellite's performance are presented to underwriters.

Despite contract terms that allocate risks associated with a satellite's in-orbit performance, disputes frequently arise in this context between or among satellite manufacturers, operators and insurers. Parties often resort to international arbitration to resolve such disputes, as illustrated by the following:

- In September 1998, DBS satellite operator EchoStar filed an insurance claim of $219 million against its underwriters based on a claim that the EchoStar 4 satellite had experienced a "total loss" under the terms of its insurance policy (defined in that policy as the loss of 50 percent or more of its operating capacity). The dispute was submitted to arbitration under the auspices of the American Arbitration Association (AAA).[67]
- Satellite manufacturer Boeing successfully defended itself in an ICC arbitra-

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[64] Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 45 (citing Laurence Ravillon, *Arbitral Disputes in the Space Activities Sector*, 7 IBLJ 825, 828 (2003)).

[65] Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 45.

[66] Known risks to a satellite's performance, such as where in-orbit problems have occurred with respect to earlier satellites of the same model, can be excluded from insurance coverage altogether or covered by increased premiums.

[67] Peter B. de Selding, *EchoStar to Seek Arbitration Over Insurance Claim*, Space News, July 10, 2000.

tion brought by the insurers of Thuraya Satellite Telecommunications Company based on allegations of gross negligence for the manner in which it handled solar array defects on Boeing model-702 satellites. The underwriters had sought reimbursement of $219 million paid to Thuraya in connection with a solar array defect on the Thuraya D1 satellite launched in October 2000.[68]

- Telesat Canada and its insurers filed claims against Boeing in international arbitration seeking $395 million in damages relating to defective solar arrays on Telesat's Anik F1 satellite. The claimants allege that Boeing was guilty of gross negligence and willful misconduct in connection to the defective arrays.[69]
- A dispute between XM Satellite Radio and certain of its insurers over claims involving two defective Boeing 702 satellites was resolved in an international arbitration concluded in 2006.[70]

[4] Satellite Launch Agreements

Agreements to launch a satellite into orbit are entered into by a launch service provider and a satellite operator. If the satellite manufacturer has agreed to procure the launch and deliver the satellite to the operator in-orbit, then a launch agreement would be entered into by the launch services provider and the manufacturer. Given the risks associated with launching satellites, launch providers typically agree to a "best efforts" standard in providing launch services and delivering a satellite into orbit.[71]

The risks associated with the launch of a satellite are even greater than the risks involved in constructing a satellite and operating it in orbit. Launching a satellite involves placing a launch vehicle and satellite on top of approximately 100 tons of highly explosive fuel that propels the satellite into orbit approximately 120 miles above the earth, at which point the satellite's own motors take over and transport the satellite to its intended orbit. In addition to the possibility that a scheduled launch might be delayed, the primary risks of a launch include loss or damage to the satellite and launch vehicle upon a failed launch, failed separation of the satellite from the launch vehicle on command, or failure of the satellite to attain its intended orbit that causes the satellite to wind up in an orbit unsuitable for providing telecommunications services.

As with satellite construction contracts, parties to launch service agreements allocate risks among launch participants. For example, such agreements may provide that, in the event of a launch failure, the satellite operator is entitled to request a

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[68] Peter B. de Selding, *Boeing Found Not Negligent for Solar Array Defects*, Space News, February 10 2009.

[69] Peter B. de Selding, *Telesat Joins Claim Against Boeing*, Space News, October 26, 2006; *Telesat Seeks Compensation From Boeing for 702 Defects*, Space News, October 30, 2006; and *Boeing Found Not Negligent for Solar Array Defects*, Space News, February 10, 2009.

[70] Peter B. de Selding, *Telesat Seeks Compensation from Boeing for 702 Defects*, Space News, October 30, 2006.

[71] *See*, *e.g.*, Martin Marietta Corporation v. INTELSAT, 991 F.2d 94, 95 (4th Cir. 1993).

replacement launch (paid for by insurance proceeds) as its sole and exclusive remedy. Moreover, launch agreements typically provide limitation of liability clauses that protect a launch provider from liability in the event of a launch failure. In the United States, for example, the Commercial Space Launch Act requires launch providers to enter into a reciprocal waiver of claims with its contractors, subcontractors and customers, and contractors and subcontractors of the customers involved in the launch. Each party agrees to be responsible for any property damage or loss it sustains, as well as personal injury, death, or property damage or loss sustained by its employees resulting from the launch activities.[72] Launch agreements also provide for satellite operators to require their insurers to waive recourse against the launch provider.

As with satellite construction contracts, parties to launch service agreements sometimes disagree over the validity and enforceability of limitation of liability clauses. In one case, *Martin Marietta Corporation v. INTELSAT*, Martin Marietta launched an INTELSAT satellite that ended up in a useless orbit.[73] INTELSAT sought to nullify the contract's limitations of liability under Maryland's common law rule that parties normally cannot waive liability for gross negligence. Martin Marietta claimed that the Commercial Space Launch Act's inter-party waiver provisions overrode Maryland law and precluded INTELSAT's claim of gross negligence. The Fourth Circuit disagreed, finding that "neither the language of [statute] nor [its] legislative history reflects a Congressional intent to protect parties from liability for their own gross negligence."[74]

Satellite parties do not hesitate to invoke arbitration to resolve disputes surrounding launch agreements or launch failures, as illustrated by the following examples:

- An arbitration panel recently held that Sea Launch Company must pay Hughes Network Systems approximately $52 million in a dispute over whether Hughes was entitled to terminate a launch contract and receive a refund of its pre-launch payments.[75]
- Insurers for Space Communications Corp. of Tokyo filed international arbitration against Boeing following a failed 2004 launch of the Superbird-6 satellite. The insurers claimed that Boeing, as the satellite manufacturer, was responsible for ordering faulty launch-injection parameters for the satellite, which failed to achieve its intended orbit and subsequently had to be de-orbited.[76]

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As the foregoing shows, disputes among satellite industry participants are not uncommon. They arise at different stages of a satellite's life—during construction,

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[72] Commercial Space Launch Act Amendments of 2004, 49 U.S.C.A. § 70112(b)(1) (2007).

[73] Martin Marietta Corporation v. INTELSAT, 991 F.2d 94 (4th Cir. 1993).

[74] Martin Marietta Corporation v. INTELSAT, 991 F.2d 94, 100 (4th Cir. 1993).

[75] Peter B. de Selding, *Sea Launch Ordered to Pay HNS $52 Million*, Space News, April 23, 2009.

[76] Peter B. de Selding, *Classified Programs, Delta 2 Boost Boeing Space Revenue*, Space News, August 9, 2007.

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launch, or in-orbit operations—and present issues that are factually complicated and legally challenging. These arbitrations often involve very complex technical issues that must be resolved to reach an outcome in the case. Arbitrators are required to interpret ambiguous or even conflicting provisions in manufacturing contracts, launch agreements and insurance policies; determine which terms, if any, might reflect standard industry "usage" and how that bears on the case; discern and implement the intent of the parties; and apply pertinent law to the facts of the case. Also, as noted earlier, satellite industry arbitrations normally involve significant financial amounts, which can run into the hundreds of millions of dollars.

These and other factors, as discussed more fully in Section 39.04 *below*, suggest why the satellite industry looks to international arbitration to resolve such difficult disputes.

§ 39.04 International Arbitration in the Satellite Industry

[1] International Arbitration Is Preferred Method for Resolving Satellite Industry Disputes

The satellite industry perceives a number of significant *advantages* favoring international arbitration over court litigation. For this reason, arbitration clauses are incorporated in virtually all major industry contracts, including satellite manufacturing contracts, launch service agreements and insurance policies.[77]

The satellite business is a prime example of an industry that is truly international in scope. As noted above, the main satellite manufacturers and launch providers are headquartered in various countries in North America, Europe and Asia; and the many operators that provide telecommunications services via satellite are located throughout the world. Satellite insurers (and re-insurers) also comprise an international community. Thus, when contractual disputes arise among satellite industry participants, it is more likely than not that the parties involved will be located in different countries.

[2] International Arbitration Permits Fair Resolution of Disputes Between Satellite Industry Parties from Different Countries

International arbitration affords a neutral mechanism for resolving disputes between parties from different countries. As authors recently observed: "[a]rbitrating international disputes. . .makes sense because neither party wants to find itself in a local court in a foreign country litigating in a language it does not understand."[78] Recourse to international arbitration can eliminate the risks of appearing before a foreign court. By appointing arbitrators, the parties can better assure that their case will be heard and resolved by an impartial decision-maker. Parties also can specify the law that will govern the arbitration proceedings (normally the law of the country in which the

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[77] Alexis Mourre correctly notes that "[a]rbitration seems to be the most frequent form of dispute resolution used in the field of space contracts." *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 52.

[78] David Woodcock and Zeke DeRose, *Is Arbitration Actually Desirable?*, 3 Bloomberg Law Reports 1 (2009).

arbitration will take place) and the procedural rules of a neutral arbitral institution. Arbitration gives parties the extra flexibility to modify procedural rules to meet specific needs of the parties' case. Finally, arbitration clauses normally specify an agreed-upon language to be used for the arbitration, thereby avoiding surprises as to this issue.

The U.S. Supreme Court recognized this advantage of international arbitration in the case of *Scherk v. Alberto-Culver Co*., where it stated:

> A contractual provision specifying in advance the forum in which disputes shall be litigated and the law to be applied is, therefore, an almost indispensable precondition to achievement of the orderliness and predictability essential to any international business transaction. Furthermore, such a provision obviates the danger that a dispute under the agreement might be submitted to a forum hostile to the interests of one of the parties or unfamiliar with the problem area involved."[79]

The prevalence of international business dealings, including international satellite transactions, demands a neutral dispute resolution process to resolve international disputes. It is well recognized by the satellite industry that international arbitration best serves this purpose.

[3] Arbitration Allows the Appointment of Skilled Arbitrators Qualified to Hear and Resolve Complex Satellite Industry Disputes

Another key advantage of international arbitration over court litigation is that the parties can select experienced arbitrators to hear and decide their case. This factor is especially important with respect to satellite industry disputes, which by nature are complex and highly technical.

Most judges are not knowledgeable about specific industries such as the satellite sector. Their busy schedules may not afford adequate time to delve deeply into detailed contract provisions on which most satellite industry disputes are based. Arbitrators, on the other hand, can be chosen because of their knowledge of a specific industry, or of the applicable law, or because they are familiar with the technical aspects of a dispute. Arbitrators also can arrange their schedules to devote time and attention necessary to comprehend complicated facts, or industry practices, or other factors that are relevant to the resolution of a difficult dispute.

This author has observed elsewhere that "[w]hen a case involves contractual, legal and regulatory issues, lawyers with expertise in the type of transaction involved and the legal and regulatory environment are obvious choices to serve as arbitrator. They will understand the issues more quickly. . ."[80] This author also has noted that ". . .disputes involving the aeronautics and space industries are best resolved by arbitrators who are aeronautics or space attorneys, or others with education, training and experience in those areas."[81]

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[79] 417 U.S. 506, 516 (1974) (footnote omitted).

[80] Raymond G. Bender, Jr., *Critical First Steps in Complex Commercial Arbitration—Appointing Qualified Arbitrators and Staging the Preliminary Conference*, 64 Dispute Resolution Journal 32 (2009).

[81] Raymond G. Bender, Jr., *Critical First Steps in Complex Commercial Arbitration—Appointing Qualified Arbitrators and Staging the Preliminary Conference*, 64 Dispute Resolution Journal 32 (2009).

Others familiar with satellite arbitration also highlight the importance of appointing arbitrators who are knowledgeable in the field. Alexis Mourre, who stresses the "highly specialized and technical nature" of satellite industry disputes, states that "[t]he arbitrator will not only have to take all the time necessary to familiarize himself with the technical aspects of the dispute, but will also need to have sufficient knowledge of the very specific industrial context of the space industry," and further opines that "[i]t is . . .preferable to select lawyers who have experience in arbitration and a good knowledge of the technical context of aerospace disputes."[82]

As discussed above, arbitrators in satellite cases usually need to grapple with complex technical concepts, make findings of fact after hearing conflicting testimony of expert witnesses (*e.g.*, aerospace engineers), and reach conclusions about occurrences or anomalies affecting the performance of a satellite located in outer space. Arbitrators also are asked to construe provisions in satellite manufacturing contracts, launch agreements and insurance policies that often are ambiguous—even confounding—in order to discern the intent of the parties when they entered into such agreements. Satellite manufacturers and launch providers may rely on limitation of liability clauses to shield themselves from financial exposure, while satellite operators and their insurers often challenge the validity of such clauses based on gross negligence, willful misconduct, or other legal theories. The substantive law, and possibly applicable satellite industry customs and usage, can come into play in resolving such disputes. Other complications can beset a satellite arbitration, including challenging regulatory requirements that apply if an arbitration is subject to the U.S. International Traffic in Arms Regulations.[83] These and other factors suggest that parties to satellite industry arbitration should appoint qualified arbitrators, preferably satellite attorneys who possess a broad knowledge of the industry and are experienced in handling a range of satellite-related commercial transactions.

Thus, the prerogative to appoint experienced individuals is a key factor in making international arbitration the preferred method of resolving satellite industry disputes.

[4] Confidentiality in International Arbitration Protects Technical and Commercially Sensitive Information from Public Disclosure

Judicial proceedings are not private but are open to the public, whereas international arbitration normally is conducted on a confidential basis. To ensure confidentiality in arbitration, parties should inquire whether the arbitral institution rules they select provide for confidentiality, and they also should specify confidential treatment in their arbitration agreement.[84]

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[82] Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 53.

[83] *See* § 39.07[3] *below*.

[84] Confidentiality in arbitration may vary from country to country. For a discussion of the nature and extent of arbitration confidentiality in the United States, particularly as to whether arbitration communications are discoverable and admissible in other legal proceedings, *see* Richard C. Reuben, *Confidentiality in Arbitration: Beyond the Myth*, 54 U. Kan. L.Rev. 1255 *et seq*., (2006).

As noted throughout this chapter, satellite disputes typically involve highly technical data which, from the standpoint of a manufacturer, launch provider or operator, will be considered proprietary business information or trade secrets. Thus, for competitive and other reasons, such information should not wind up in the public domain. Parties to arbitration can protect confidential information vis-à-vis third parties, and can restrict its use by other parties to the arbitration through non-disclosure agreements or similar arrangements. Arbitrators also are bound by ethical rules not to disclose confidential information they receive during arbitration proceedings, unless otherwise required by law.

As discussed in Section 39.07 *below*, governments also may desire to protect satellite-related technical data from public disclosure to the extent it involves "state secrets" or defense-related concerns. Open court procedures obviously are incompatible with these governmental objectives. Private arbitration, on the other hand, presents a more manageable and hospitable environment for protecting this type of confidential data from public disclosure.

Confidential proceedings also can help protect business reputations, even to the extent of protecting against disclosure of the dispute itself. As one commentor observed, parties "may prefer [confidentiality] if they wish to avoid airing their disputes in public. . . ."[85] The *existence* of a major satellite industry dispute may become generally known, particularly since many satellite firms are public companies subject to disclosure requirements under various securities laws. However, securities disclosures tend to be carefully crafted and summary only in nature, while the details of a dispute that might be adverse to a company's reputation can remain confidential in arbitration.

[5] Flexibility of International Arbitration Permits Discovery and Other Procedures Appropriate to Satellite Industry Needs

In complex commercial disputes like those in the satellite sector, international arbitration generally affords greater procedural flexibility than court litigation. In particular, parties may specify in an arbitration agreement procedures that will apply in any arbitration that arises. Unlike litigation, which normally has precise rules relating to discovery, the adduction of evidence, and other matters, arbitration procedures generally are more adaptable to the needs of a complex case.

Discovery can be a significant tool for parties involved in difficult satellite industry disputes. For example, certain facts may be in the possession of only one of the parties, such as a satellite manufacturer or launch provider who, based on their own investigation (or a commission's investigation), may have knowledge superior to that of the satellite operator as to the cause of a performance anomaly or launch failure. Alexis Mourre highlights this point, noting that the operator will have special discovery needs in this context:

. . .In such conditions, denying the operator access to the manufacturer's file in order to rebut the

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[85] Adam Greaves, *Litigation v. Arbitration—An Update on the Comparative Advantages and Disadvantages*, 20 Mealey's Int'l Arb. Rept. 2 (2005).

commission's conclusions is equivalent to tipping the balance against him. That is why disputes relating to satellite manufacturing or launch accidents are cases in which arbitrators should accept discovery, albeit subject to control, so that the proceedings do not become too cumbersome.[86]

Another author notes this potential imbalance in the level of knowledge the parties to satellite arbitrations may possess: "[w]hether discovery is important to a party's success in resolving a dispute often depends on which side of the dispute the party is on and the nature of the dispute."[87]

A satellite operator seeking to demonstrate gross negligence on the part of a manufacturer or launch provider, for example, may require documents in the possession of those parties in order to prove its case. Insurance underwriters in such cases also may require access to specific information or documents in the possession of others. Depositions may be required in complex satellite disputes to afford the claimant (or respondent) an opportunity to understand and organize a large quantity of documentary evidence and thereby fairly present (or defend) its case. Therefore, because parties to satellite industry disputes often possess varying degrees of knowledge concerning relevant facts, access to discovery procedures in such cases can take on greater significance than in other kinds of arbitration.

There may be reluctance on the part of many international arbitrators to permit "American style" discovery, though most arbitrators appreciate the need to strike a balance between ensuring efficiency in arbitration and affording each party a fair opportunity to marshal the facts necessary to present its case. The rules of international arbitral institutions mention discovery in summary fashion only, generally leaving the nature and extent of discovery to the discretion of the arbitrators.[88]

But beyond any specific arbitration rules, parties are free to incorporate in an arbitration agreement specific procedures, including discovery procedures, necessary or appropriate to the conduct of a complex commercial case. This flexibility is noted, for example, in the Preamble to the IBA Rules on the Taking of Evidence, which provides that:

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[86] Alexis Mourre, *Arbitration in Space Contracts*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009, at 55-56.

[87] Phillip D. Bostwick, *Going Private with the Judicial System: Making Critical Use of ADR Procedures to Resolve Commercial Space Disputes*, 23 J. Space L. 23 (1995). Laurent Lévy also notes that parties to satellite arbitration may have different levels of knowledge which may bear on the nature and extent of the discovery that is sought. *L'Arbitrage Privé en Matière Spatiale*, (ICC Conference on Dispute Resolution in Aeronautics and Space, Paris, Fr.), Feb. 5, 2009 at 11.

[88] The AAA's International Arbitration Rules governing ICDR arbitrations provide, in Article 19.3, that "[a]t any time during the proceedings, the tribunal may order parties to produce. . .documents, exhibits or other evidence it deems necessary or appropriate." The ICC Rules of Arbitration provide, in Article 20.1, that "[t]he Arbitral Tribunal shall proceed. . .to establish the facts in the case by all appropriate means." The London Court of International Arbitration (LCIA) Rules provide, in Article 14.2, that "the Arbitral Tribunal shall have the widest discretion to discharge its duties allowed under such law(s) or rules of law as the Arbitral Tribunal may determine to be applicable. . . ." The UNCITRAL Arbitration Rules, which normally are used in *ad hoc* arbitrations, provide at Article 24.3 that "[a]t any time during the arbitral proceedings the arbitral tribunal may require the parties to produce documents, exhibits or other evidence with such period of time as the tribunal shall determine."

> Parties and Arbitral Tribunals may adopt the IBA Rules of Evidence, in whole or in part, to govern arbitration proceedings, or they may vary them or use them as guidelines in developing their own procedures. The Rules are not intended to limit the flexibility that is inherent in, and an advantage of, international arbitration, and Parties and Arbitral Tribunals are free to adapt them to the particular circumstances of each arbitration.[89]

Satellite industry arbitration clauses sometimes specify the nature and extent of discovery that will be allowed in the event of a dispute. Court systems in some countries do not allow or permit very little discovery, and the flexibility of international arbitration therefore provides an avenue to pursue some degree of discovery as an alternative to court litigation. Of course, arbitrators still must exercise sound discretion to limit discovery in a manner consistent with the principle of arbitral efficiency. Depositions, for example, might be permitted only upon a showing of good cause, and document requests must be focused on particular documents or categories so as not to become "fishing expeditions" as sometimes occurs in court litigation.

Thus, international arbitration affords satellite industry parties great flexibility to craft arbitration agreements to ensure a fair and reasonable process in a complex commercial dispute. In particular, parties may specify the nature and extent of discovery that will be allowed, including document requests and depositions, subject to the discretion of the arbitrators in managing the case. Given the quantity and complexity of evidence typically involved in satellite arbitrations, discovery tools might be helpful in narrowing the issues prior to hearing, and parties in satellite disputes may wish to avail themselves of the flexibility that international arbitration affords.

[6] International Arbitration Awards Enjoy Greater Enforceability Under the New York Convention.

Another advantage of international arbitration over court litigation is that arbitral awards can be enforced widely throughout the world under the 1958 United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards, commonly known as the New York Convention.[90] This is an important consideration for the satellite industry because, as noted *above*, satellite disputes are frequently international in scope.

The New York Convention provides that "[e]ach Contracting State shall recognized arbitral awards as binding and enforce them in accordance with the rules of procedure of the territory where the awards is relied upon. . . ."[91] A total of 144 nations adhere

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[89] Int'l Bar Ass'n, IBA Rules on the Taking of Evidence in International Commercial Arbitration, pmbl. 2, (2006).

[90] United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards, June 10, 1958, 330 U.N.T.S. 38 (New York Convention).

[91] United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards art. 3, June 10, 1958, 330 U.N.T.S. 38 (New York Convention). There are only limited exceptions whereby a nation adhering to the New York Convention may refuse to recognize a foreign arbitral award, such as where (i) the parties to an arbitration agreement are under some incapacity or such agreement is not valid under applicable law; (ii) the party against whom the agreement is invoked was not given proper notice

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to the New York convention, subject to certain declarations and reservations.[92]

There are no comparable international conventions for the recognition and enforcement of foreign court judgments. While European nations have agreed under the Brussels and Lugano Conventions to enforce judgments obtained in other European states,[93] this practice has not gained widespread acceptance around the world.[94] In the absence of a multilateral treaty that has gained widespread acceptance, the recognition and enforcement of foreign judgments will depend on principles of comity in the country where a judgment is sought to be enforced. Unlike international arbitration, the recognition and enforcement of court judgments in other countries presents significant uncertainty and risk.

Thus, from the satellite industry's perspective, arbitral awards are preferable to foreign court judgments in view of their wider recognition and enforceability internationally.

* * * * *

There do not appear to be any significant *disadvantages* to international arbitration from the satellite industry's perspective. Some may view the cost of conducting arbitration proceedings that are complex and often lengthy to be a disadvantage, although arbitration almost always is more efficient and cost-effective than court litigation. However, satellite industry participants readily incur arbitration costs given the complexity and high-stakes nature of satellite disputes and other factors, as described above, that favor international arbitration over court litigation.

§ 39.05 Satellite Industry Arbitrations Are Conducted in Numerous Locations and Under the Auspices of Various Arbitral Institutions

There are no particular "hot spots" in terms of geographic location or clear industry

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of the appointment of the arbitrator or of the arbitration procedures or otherwise was unable to present its case; (iii) the award relates to matters outside the scope of the arbitration agreement; (iv) the arbitral appointments and procedures were not in accordance with the agreement of the parties or the law of the country where the arbitration took place; (v) the award has not become binding or has been set aside by a competent authority of the country in which, or under the law of which, the award was made; or (vi) enforcing the award would be against the public policy in the country where enforcement is sought. U.N. Convention on the Recognition and Enforcement of Foreign Arbitral Awards, art. 5, June 10, 1958, 330 U.N.T.S. 38 (New York Convention).

[92] For a list of nations that have ratified the New York Convention, *see* World Intellectual Property Organization, http://arbiter.wipo.int/arbitration/ny-convention/parties.html.

[93] *See* Brussels Convention on Jurisdiction and the Enforcement of Judgments in Civil and Commercial Matters, 1990 29 I.L.M. 1413; and Lugano Convention on Jurisdiction and the Enforcement of Judgments in Civil and Commercial Matters, 1989, 28 I.L.M. 620.

[94] The United States recently signed the Convention on Choice of Court Agreements concluded at the Hague on June 30, 2005, the text of which can be seen at the Hague Conference website at http://www.hcch.net/index_en.php?act=conventions.text&cid=98. The Convention sets out rules for States to recognize and enforce judgments handed down by courts of other States designated by parties in a choice of court agreement. It remains to be seen, however, whether this Convention will gain widespread acceptance throughout the world or provide reliably for the recognition and enforcement of court judgments that the New York Convention has provided for in the case of arbitral awards.

preferences for conducting satellite industry arbitrations. Satellite arbitrations have been conducted in various venues, including well-known and accessible cities in North America and Europe, such as Washington, D.C., New York, Ontario, London, Paris, and Geneva. As a practical matter, satellite arbitrations most often occur in cities recognized for hosting international arbitrations generally.[95]

Satellite arbitrations are administered by various arbitral institutions, including the International Center for Dispute Resolution of the American Arbitration Association, the International Chamber of Commerce, and the London Court of International Arbitration. Occasionally *ad hoc* satellite arbitrations are conducted under the UNCITRAL rules as well.

Certain of the major international arbitral institutions, such as the AAA, affirmatively state that their rosters include arbitrators with specialized experience in "aerospace,"[96] although individuals on such rosters may not, as a practical matter, have as much satellite-related experience as practicing or retired attorneys in the field.

Also, because of the growing importance of international arbitration to the satellite community, some arbitral institutions have begun to sponsor educational programs to inform arbitrators and practicing attorneys concerning the issues involved in satellite industry arbitration. For example, on February 5, 2009, a conference was held in Paris on "Dispute Resolution in Aeronautics and Space" under the auspices of the ICC International Court of Arbitration.

§ 39.06 Suggestions for Improving the Satellite Arbitration Process

International arbitration appears to serve the needs of the satellite industry very well. As noted above, arbitration provides a neutral mechanism for the fair resolution of complex disputes, permits the appointment of skilled arbitrators, affords confidentiality for the protection of proprietary information and trade secrets, provides flexible procedures that may be adapted to the particular circumstances of each case, and allows the enforcement of arbitral awards under the New York Convention.

Just as any worthy process can be improved or enhanced, international satellite arbitration might benefit from the following constructive suggestions, each of which relates to the complex nature of satellite industry disputes.

First, arbitration permits the parties to name qualified arbitrators who are knowledgeable concerning a specific industry and its practices, contracts and transactions, technical aspects of the business, and laws and regulations that apply to a particular commercial sector. Parties involved in satellite industry arbitration (and their counsel) should always take the opportunity to appoint the best qualified arbitrators to hear and resolve their case.

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[95] Arbitration practitioners have noted that "[i]n practice, the cities often regarded as attractive seats for international arbitration are London, Paris, Geneva, Stockholm, Singapore, Hong Kong, New York and Washington D.C." Caroline Bell, Raichel Hopkinson and Paul Stothard, Denton Wilde Sapte LLP, A Brief Guide to Drafting Effective Arbitration Clauses 5 (2007).

[96] Am. Arb. Ass'n, Guide to the Management of Large, Complex Cases 5 (2007).

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There is no precise formula, of course, for weighing the various attributes of a particular arbitrator candidate, or for comparing the qualifications of one candidate to those of another. However, in the case of satellite arbitrations, which typically involve detailed contractual arrangements and complex technical issues, there ought to be a heightened awareness that appointing arbitrators with a good knowledge of the satellite industry can create efficiencies and even achieve a better outcome in the case. Persons familiar with the satellite business understand the context in which a dispute arose, appreciate the distinct discovery needs of the various parties, and are better able to consider the evidence and resolve the case. Those who understand the unique contractual, legal, and regulatory framework, and who have at least some familiarity with satellite engineering, also bring advantages to any satellite arbitration. The arbitrator selection process therefore should focus on individuals who can bring the best experience and skills set to resolve a complex satellite arbitration.

Retired satellite business executives with broad industry experience, and possibly satellite engineers, might be considered for appointment in these cases. However, satellite industry disputes usually entail complicated contractual provisions and interpretations of applicable law concerning, for example, the validity or enforceability of limitation of liability provisions, and also may be subject to legal and regulatory constraints under the ITAR. For these reasons, lawyers experienced in the satellite industry usually are better choices than non-lawyer business executives or engineers for hearing and resolving a complex satellite industry dispute. Satellite engineers also may be associated with only one industry group, *e.g.*, manufacturers or operators, and therefore might not be viewed as entirely impartial in these kinds of disputes. Ideally, satellite engineers serve as expert witnesses appointed by each of the parties, rather than arbitrators, to address the technical issues so that experienced arbitrators can reach appropriate findings of fact and conclusions of law.

Second, as noted earlier, because parties involved in satellite disputes may have different knowledge levels concerning relevant information—*e.g.*, facts surrounding a launch failure or in-orbit satellite anomaly—access to various forms of discovery, including documentary discovery and depositions, may be critical to the preparation of a party's case.[97] While rules of arbitral institutions do permit discovery, many international arbitrators are reluctant to approve certain types of discovery (*e.g.*, depositions) on the theory that arbitration is designed to be a more streamlined, efficient process than court litigation. In complex satellite cases, however, arbitrators must be attuned to the special documentary and other discovery needs of the parties, including depositions, while also taking steps to ensure that efficiency is maintained throughout the proceedings. "Balance" is a key concept in this context. To avoid risk and uncertainty, parties to satellite agreements should address in the arbitration clause the nature and extent of discovery they might expect to pursue.

Third, any complex arbitration can experience disruption and delay if the arbitrators and counsel do not adopt suitable procedures at the beginning of the case. In satellite

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[97] *See* § 39.04[5] *above*.

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cases, the preliminary conference is a key event for organizing the phases of a complex arbitration and for ensuring the proceedings will be conducted efficiently and without undue delay.

Arbitrators serving in satellite cases should circulate a detailed agenda of items to be addressed at the preliminary conference. Arbitrators also should instruct counsel to confer and agree before the preliminary conference on as many agenda items as possible and be prepared to address areas of disagreement during the conference. The issues to be taken up at the preliminary conference in a complex satellite arbitration include the following:[98]

- *Threshold Questions*. Arbitrators should determine whether any initial motions will be filed concerning jurisdiction, arbitrability of claims, summary disposition, requests for interim relief, or other preliminary items. Threshold matters may arise in any arbitration, but they are more likely to occur in complex disputes like those involved in the satellite industry.
- *Applicable Law*. Arbitrators should determine whether the parties agree regarding the law and procedural rules that will govern the proceedings, and the substantive law that will apply to the case. Parties to a satellite arbitration may have resolved these matters in contractual provisions, including the arbitration clause, and this matter should be addressed at the preliminary conference.
- *Pre-Hearing Briefs and Opening Statements*. Arbitrators have different views as to whether pre-hearing briefs and opening statements are advantageous. In complex satellite arbitrations, pre-hearing briefs are a valuable tool for organizing the presentation of claims and defenses and informing the arbitrators as to the expected course of the case. Opening statements afford counsel the opportunity to introduce the case, and arbitrators will benefit from an overview of the case as well. Arbitrators may control the length of pre-hearing briefs, as well as any time allocated for opening statements, to ensure that the arbitration proceeds efficiently.
- *Discovery*. The nature and extent of discovery should be addressed in detail at the preliminary conference, and procedures should be adopted for resolving discovery disputes. As noted above, parties to satellite arbitration often possess different levels of knowledge concerning facts relevant in a dispute, and access to discovery therefore can be essential for a party to have a reasonable opportunity to present its case. At the preliminary conference, the arbitrators and counsel should discuss the discovery needs of each of the parties and establish procedures that are efficient and fair.
- *Hearing Logistics*. The location and dates of the hearing should be established at the preliminary conference. Whether liability and damages aspects of the

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[98] *See* Raymond G. Bender, Jr., *Critical First Steps in Complex Commercial Arbitration—Appointing Qualified Arbitrators and Staging the Preliminary Conference*, 64 Dispute Resolution Journal 33-36 (2009) for a broader discussion of preliminary conference agenda issues in complex arbitrations.

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case are to be bifurcated also should be addressed. As discussed in Section 39.07[3][a] *below*, satellite arbitrations subject to ITAR procedures may require Technical Assistance Agreements, U.S. governmental licenses, and possibly monitoring by U.S. officials, all of which can add complexity and delay to the proceedings. In satellite arbitrations subject to ITAR, the arbitrators and counsel need to build sufficient flexibility into discovery and hearing schedules to permit ITAR requirements to be met. If ITAR issues are not affirmatively addressed at the outset of an arbitration, then scheduled hearings likely will need to be deferred, possibly more than once, to comply with ITAR requirements.

- *Witness Testimony*. The arbitrators and counsel should establish efficient procedures for the testimony of lay and expert witnesses, including whether some or all of the testimony should be presented in written form with witnesses available to opposing counsel for cross-examination. Parties to satellite arbitrations routinely use expert witnesses to testify concerning highly technical subject areas. Arranging for technical experts to testify together on the same panel can be useful in narrowing the issues, facilitating focused questioning by counsel and the arbitrators, and enabling each expert to offer real-time comments on the testimony of other experts.
- *Post-Hearing Briefs and Oral Argument*. It can be useful in complex satellite disputes to arrange for post-hearing briefs, especially when extensive evidence has been presented on multiple issues. Briefs permit counsel to focus on key evidence in a complex case and distill final arguments for presentation to arbitrators in a clear and cogent manner. Oral argument affords a similar opportunity, and permits arbitrators to question counsel concerning any factual or legal areas that remain unresolved.
- *The Award*. Parties in complex commercial arbitrations often prefer a reasoned award rather than a summary decision, and this is true generally for satellite arbitrations. The rules of the arbitral institution may address the subject of awards, and the parties also may have specified a preference in their arbitration agreement. At the preliminary conference in satellite arbitrations, the arbitrators should confirm the expectations of the parties concerning the type of award they will issue.

The experience of the participants in any complex commercial arbitration may be enhanced by foresight, careful planning and preparation, and attention to the particular needs of the case. Satellite industry disputes in many ways are similar to other complex commercial disputes. But satellite disputes also present certain unique challenges given the specialized and highly technical nature of the issues involved. The expectations of the parties in any satellite arbitration can best be achieved by appointing qualified arbitrators, recognizing that parties may have special discovery needs in this context, and adopting suitable procedures at preliminary conference to guide case conduct.

§ 39.07 Special Features of Satellite Industry Arbitration

[1] Protection of Governmental Interest

Governmental interests may come into play in the conduct of satellite industry arbitration. For example, documents related to a dispute may contain classified information or military secrets a state seeks to protect from disclosure. Or a country's export control policies—most notably the United States' International Traffic in Arms Regulations (ITAR)—may restrict the dissemination of satellite technical data to non-U.S. nationals. Such laws and policies may affect the conduct of an international arbitration, including a satellite arbitration, and arbitrators and counsel in such cases therefore need to be adept in handling these kinds of issues.

[2] National Laws Concerning Defense Secrets

States may seek to protect from disclosure documents or information that are vital to its national security. Such information often is termed "defense secrets," which one author states ". . .concern in their essence and although the definition might vary from one country to another, information which relates to the ability of a country to defend itself."[99]

When one party to a commercial dispute possesses relevant information or documents that may be related to "defense secrets"—*e.g.*, by virtue of that party having acquired the information in its role in government procurement contracts—state laws or policies may restrict the disclosure in any context, including in international arbitration. Indeed, criminal or civil penalties may apply to the willful or negligent disclosure of defense secrets. For this reason, parties to international arbitration may refuse to reveal to opposing parties information or documents classified as "defense secrets" or even many seek court orders enjoining the production and use of such information in international arbitration.

Whether information concerning "defense secrets" can ever be disclosed and used in international arbitration generally will be determined by courts with input from governmental officials responsible for classifying and de-classifying such information. Arbitrators may become embroiled in such circumstances if requested to order the production of such information or documents or to rule upon the admissibility of such evidence. Arbitrators need to recognize, of course, that national laws concerning defense secrets may restrict parties from disclosing certain information. Proactive arbitrators may be able to work around such restrictions within the law by ordering, to the extent permissible and appropriate, *partial* document disclosures or redactions that allow relevant information to be provided to other parties and also preserve governmental interest in protecting defense secrets at the same time. And, of course, as recognized in the IBA Rules, arbitrators may restrict the disclosure of defense secrets altogether based on governmental concerns:

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[99] Rupert Reece, *Defense Secrets in International Arbitration*, (ICC Conference on *Dispute Resolution in Aeronautics and Space*, Paris, Fr.), Feb. 5, 2009 at 2. Mr. Reece provides a useful summary of the laws pertaining to defense secrets in France and the United Kingdom.

2. The Arbitral Tribunal shall, at the request of a Party or on its own motion, exclude from evidence or production any document, statement, oral testimony, or inspection for any of the following reasons:

* * *

(b) legal impediment or privilege under the legal or ethical rules determined by the Arbitral Tribunal to be applicable;

* * *

(f) grounds of special political or institutional sensitivity (including evidence that has been classified as secret by a government or a public international institution) that the Arbitral Tribunal determines to be compelling. . .[100]

Authors have suggested that where documents central to a case are unavailable to a party and a tribunal based on "defense secrets," an issue as to the "arbitrability" of the dispute itself may arise.[101] Ultimately, a party asserting a claim in arbitration bears the burden of proof and will need to make its case based on all of the relevant evidence that is accessible and available for its use. To the extent "defense secrets" are unavailable for this purpose, a party will need to rely on evidence that is available or, in some cases, possibly fail to submit sufficient evidence to prove its claim.

[3] International Disputes

[a] U.S. Export Controls and the ITAR Regime

The United States historically has maintained a leading position with regard to the manufacture, launch, and deployment of commercial telecommunications satellites. For this reason, satellite industry disputes referred to international arbitration often involve U.S. satellite or launch-related technology. When arbitration involves technology-based disputes between U.S. and non-U.S. parties, the proceedings may be subject to the U.S. International Traffic in Arms Regulations (ITAR), a special U.S. regulatory regime aimed at controlling the export and transfer of U.S. technology, including satellite technology, to foreign persons. An international arbitration subject to ITAR does involve added complexity, but such arbitrations can be conducted successfully with mindful attention to U.S. security concerns and cooperation among arbitrators, the parties, counsel, and U.S. government officials.[102]

[b] The ITAR Framework

The U.S. Department of State, in coordination with the U.S. Department of Defense,

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[100] Int'l Bar Ass'n, IBA Rules on the Taking of Evidence in International Commercial Arbitration art. 9.2(b) and (f) (2006).

[101] Rupert Reece, *Defense Secrets in International Arbitration*, (ICC Conference on *Dispute Resolution in Aeronautics and Space*, Paris, Fr.), Feb. 5, 2009 at 5 (citing Jean-Georges Betto, *International Arbitration and Defense Secrets: the Viewpoint of Practitioners*, RDAI/IBLJ, No. 6, 827 (2004).

[102] For a more complete discussion of this topic, *see* Raymond G. Bender, Jr., *Conducting Satellite Industry Arbitrations Under the Watchful Eye of the International Traffic in Arms Regulations*, 61 Dispute Resolution Journal No. 4 82 *et seq.* (2006-2007).

designates "defense articles" and "defense services" that constitute the U.S. Munitions List, and the export of such designated articles and services is controlled under the ITAR.[103] Spacecraft systems, including telecommunications, remote sensing, and other commercial satellites, launch vehicles, ground stations for telemetry, tracking and control of operating satellites, and associated equipment, have been designated as "defense articles" for purposes of the U.S. Munitions List. As such, their export is strictly controlled under the ITAR.[104]

The ITAR forbids the transfer or disclosure to non-U.S. persons of "technical data" relating to any defense article appearing on the U.S. Munitions List unless approval is first obtained from the State Department's Directorate of Defense Trade Controls. Similarly, "defense services," which include "assistance" relating to any defense article, may not be provided to non-U.S. persons without the prior approval of the Directorate of Defense Trade Controls. Thus, the ITAR establishes a scheme of export licensing to govern what technical data and assistance may be provided to non-U.S. persons and the terms and conditions for the technical data's use. Usually, approvals can be obtained to reveal such information to foreign parties, depending on the nationalities of the persons involved. Any disclosures will be subject to strictures and controls that protect against further dissemination of the technical data to other persons or the technical data's use beyond the purposes for which the approval is sought.

When a U.S. citizen desires to provide a foreign party technical data or assistance concerning defense articles or services, it must submit a proposed Technical Assistance Agreement (TAA) for approval by the Directorate of Defense Trade Controls. The TAA must include a comprehensive description of the facts and circumstances concerning the proposed disclosures, the context and reasons why the technical data and assistance are being provided, and a detailed description of the technical data and services involved. The TAA, once agreed to by the government officials, must be signed by all persons involved—both U.S. and foreign—to reflect each person's agreement to the specific arrangement delineated in the TAA. In effect, the TAA provides a detailed roadmap concerning technical data and services, including all applicable terms and conditions for use.

ITAR requirements apply in every context in which defense articles and defense services on the U.S. Munitions List might be divulged to foreign persons, including in legal proceedings such as international arbitration. Thus, when a dispute involving satellite technology winds up in international arbitration, the ITAR requirements will apply if non-U.S. persons are involved, including any of the parties, counsel, arbitrators, witnesses, representatives of any arbitral institution, court reporters, and possibly others.

Criminal and civil penalties apply to technology transfers to foreign persons in

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[103] Section 38 of the U.S. Arms Control Export Act authorizes the U.S. president to control the export of "defense articles" and "defense services." 22 U.S.C. § 2778. The president, in turn, delegated his authority to the U.S. secretary of state to adopt appropriate regulations, *viz.*, the ITAR, to govern the export of such defense articles and services. Executive Order No. 11958, 3 C.F.R. 79 (1977).

[104] 22 C.F.R. § 121.1.

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violation of the ITAR. Indeed, several U.S. satellite manufacturers have been fined substantial dollar amounts for exporting U.S. technology without having first obtained prior U.S. government approval. For this reason, it is incumbent upon the participants in any satellite industry arbitration to abide by all applicable ITAR requirements.

[c] Preparing a TAA for Satellite Industry Arbitration

As noted above, the ITAR seeks to prevent the transfer of technical data and related information to foreign persons to further the United States' national security and foreign policy. When claims or defenses in international arbitration center on satellite or launch-related technology, the U.S. party must propose a suitable TAA with terms and conditions for disclosure of relevant technical data to be used in the arbitration.

The ITAR delineates certain specific items that must be addressed in the context of a proposed TAA. First, the TAA must provide a complete description of the satellite or launch-related technical data and assistance proposed to be furnished to non-U.S. persons during the course of the arbitration.[105] Second, the TAA should specify all foreign countries to which any covered technology will be transferred, including all locations where discovery (*e.g.*, document production and depositions) will be conducted.[106] Third, the period of time for the TAA to apply also should be specified, which necessitates a realistic estimate concerning the expected length of the arbitration proceedings.[107] The final terms and conditions of any TAA may be subject to negotiations between the parties to the arbitration and the U.S. government officials, depending upon the precise technical data involved, the identity of the non-U.S. persons to whom the information is to be disclosed, and other factors.

It is critical that a TAA cover all phases of a satellite arbitration to permit the relevant technical data and assistance to be used as required. Thus, the TAA should address the use of the data in all motions and briefs, prehearing conferences, all aspects of discovery, at hearings, and in any interim and final award that will be issued by the arbitrators. Because technical data and defense services may not be provided to non-U.S. persons in the arbitration prior to approval of the TAA by the Directorate of Defense Trade Controls, the parties, counsel, and arbitrators must focus on obtaining the required ITAR approvals at the earliest stages to ensure that the arbitration can proceed on schedule and without undue disruption and delay.

[d] The Monitoring of Arbitration Proceedings by U.S. Government Officials

In 1998, the U.S. Congress enacted legislation with special controls concerning the licensing of satellite and launch-related exports.[108] In particular, the new law provided for monitoring by U.S. Defense Department officials of activities where approval is obtained relating to the export of satellites for launch in a foreign country. However,

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[105] 22 C.F.R. § 124.7(2).

[106] 22 C.F.R. § 124.7(4).

[107] 22 C.F.R. § 124.7(3).

[108] National Defense Authorization Act for Fiscal Year 1999, Pub. L. 105-261, 12 Stat. 2173 (1998).

monitoring and other controls are not required in connection with the export of a satellite and related items for launch in, or by nationals of, a NATO country, or a country that is a major non-NATO ally of the United States.[109] Notwithstanding this exception, the ITAR provides for discretionary monitoring, even with respect to NATO countries and their nationals. With respect to other major non-NATO U.S. allies and their nationals, ITAR discretionary monitoring also applies where such monitoring of activities would be in furtherance of the national security and foreign policy of the United States.[110] The ITAR also permits Defense Department monitoring of any activities related to the export of any defense article or defense service controlled under the ITAR to any location, in furtherance of the security and foreign policy of the United States.[111]

The monitoring of satellite and launch-related activities is conducted by the Defense Technology Security Administration (DTSA), an arm of the U.S. Department of Defense. DTSA officials have engaged in the close monitoring of international satellite arbitration since the enactment of Public Law 105-261, principally to ensure that all arbitration-related activities comply with, and fall within the scope of, the terms and conditions of the applicable TAA. Among other things, DTSA monitors may review technical information and documents produced during discovery, attend depositions involving non-U.S. deponents or other participants, review technical documents proposed to be introduced into evidence at hearing and attend the hearing, and in each case to prohibit the unauthorized provision of technical data and assistance beyond the activities authorized under the TAA. The U.S. person seeking to transfer technical data or information to non-U.S. persons must make appropriate arrangements for DTSA to monitor these arbitration activities and must reimburse DTSA for the cost of these services.[112]

While DTSA monitoring typically occurred during all phases of a satellite industry arbitration that was subject to the ITAR, even where such monitoring was not mandatory, DTSA recently signaled that it will not continue discretionary monitoring of satellite arbitrations in routine cases. Thus, while the law and ITAR continue to permit discretionary monitoring in any case where DTSA officials believe U.S. security or foreign policy risks are present, it now appears that DTSA generally will not interject itself in these arbitrations to monitor how they are conducted or to ensure compliance first-hand with the applicable TAA. This is a positive development from the satellite industry's perspective, for the removal or lessening of DTSA monitoring of arbitration activities will reduce the cost and complexity of these proceedings and the risk of disruption and delay.

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[109] National Defense Authorization Act for Fiscal Year 1999 § 1514(b), Pub. L 105-261, 12 Stat. 2173 (1998).

[110] 22 C.F.R. § 124.15(c).

[111] 22 C.F.R. § 124.15(c).

[112] 22 C.F.R. § 124.15(a)(2).

[e] Managing a Satellite Arbitration Subject to the ITAR

Satellite industry arbitration subject to ITAR can become an unruly creature unless affirmative steps are taken to manage the case in a way that accounts for applicable ITAR licensing procedures. Specifically, the arbitrators and counsel should implement various measures to ensure an orderly proceeding that minimizes disruption and delay, including the following:

First, as a general matter, all participants in any ITAR-controlled arbitration, including the parties, counsel, and arbitrators, should acknowledge that important U.S. foreign policy objectives underlie the ITAR requirements. Parties should engage special counsel expert in the ITAR to guide them through this export licensing maze to ensure that the arbitration will be conducted in an orderly fashion and in compliance with all applicable regulatory requirements. Arbitrators should insist that counsel advise the tribunal of all applicable ITAR requirements early in the proceedings. Doing so enables the arbitrators to establish appropriate schedules that account for ITAR procedures and otherwise ensure the efficient management of the case.

Second, special attention should be paid to ITAR procedures during discovery and the hearings. For example, discovery concerning technology issues may not commence until an appropriate TAA is in place to delineate the precise technical data that may be provided to foreign persons and the terms and conditions of its use. In cases involving DTSA monitoring, counsel must make arrangements for DTSA officials to review documents before the documents are produced and attend depositions taken either in the United States or abroad. The monitoring of the hearings by DTSA also can introduce complexity and potential delay if DTSA elects to pre-approve documentary evidence or attend most or all hearing sessions. These added ITAR procedures can complicate the arbitration and risk interruption to the schedule if ITAR requirements are not taken into account from the beginning of the case. Among other things, the timetable for all stages of the arbitration, including discovery and hearings, should be realistic—even liberal—to permit the parties and counsel to satisfy all ITAR requirements applicable to the case.

Third, arbitrators should manage ITAR-controlled arbitrations proactively in order to minimize disruption and delay to the proceedings. With knowledge of the ITAR licensing requirements, the arbitrators should instruct counsel to cooperate in the preparation and filing of all required State Department applications and proposed TAAs, pursue all required ITAR approvals diligently so that the government officials issue them in a timely manner, and keep the tribunal apprised as to the status of all ITAR-related developments. If DTSA officials propose to monitor any aspect of the proceedings, the arbitrators should direct counsel to make all necessary arrangements sufficiently in advance to ensure the availability of DTSA monitors at such time as relevant arbitration activities are expected to occur.

Finally, where DTSA proposes to monitor the arbitration hearings, the arbitrators must take a number of affirmative steps to foster a cooperative relationship between the participants to the arbitration and the DTSA monitors. Logistical measures must be adopted to facilitate the DTSA monitor's participation in the proceedings, including an explanation for all arbitration participants as to the role the DTSA monitor will play,

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instructions to lay and expert witnesses concerning any limits on testimony that may apply under the TAA, the placement of appropriate legends on all arbitration documents to the effect that all such documents are subject to ITAR requirements and the terms of a TAA, and procedures for the DTSA monitor to inject comments or concerns if technical issues arise that are beyond the scope of the applicable TAA. If a dispute arises at hearing between counsel and the DTSA as to a permissible line of inquiry or testimony, *e.g.*, if a witness strays beyond the limits of the TAA, the arbitrators may not overrule instructions to the witness by the DTSA monitor, but skilled arbitrators may be able to suggest a work-around or other resolution to the satisfaction of all parties.

Satellite industry arbitrations governed by ITAR are unique creatures and can present pitfalls for the unprepared. However, arbitrators with satellite experience who are used to handling complex commercial disputes, and who possess good case management skills, are able to steer a satellite arbitration through the ITAR process to achieve a successful outcome.

§ 39.08 Conclusion

In many ways, satellite industry arbitrations are like complex arbitrations in any other industry sector. There are, however, a number of key features common to all or most satellite industry controversies that set them apart from other kinds of disputes. Manufacturing contracts, launch service agreements, insurance policies, and other industry relationships tend to focus on *managing risks* associated with the construction, launch, and in-orbit operation of complex satellite systems. This means, as a practical matter, that each party seeks to limit its liability in the event of a manufacturing mishap, a launch failure, or an in-orbit satellite anomaly. Disputes arising in this context can be difficult because contract terms frequently are confusing and imprecise, often masking the true intent of the parties. Also, satellite disputes almost always involve very complex technical issues and large monetary amounts. Separate challenges come into play in satellite arbitration when "defense secrets" are involved or when the proceedings are governed by the ITAR.

The satellite industry perceives distinct advantages in using international arbitration to resolve satellite-related commercial disputes, and most industry contracts incorporate an arbitration clause for this reason. International arbitration affords a neutral forum for the resolution of disputes between industry participants who frequently are from different countries. The ability to select arbitrators with experience in satellite-related commercial transactions is another positive attribute of international arbitration. The confidentiality provided by arbitration protects technical and commercially sensitive evidence from public disclosure, which is critical to any competitive business involving high-technology products and services. Arbitration procedures generally are more adaptable to the needs of a complex case, particularly in countries where court litigation does not contemplate discovery. Finally, international arbitration awards enjoy greater enforceability under the New York Convention.

International arbitration can better serve the satellite industry's needs if the parties and/or arbitral institution appoint arbitrators with broad industry experience to hear and resolve satellite industry disputes; if arbitrators in these cases permit reasonable

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discovery to address imbalances in the factual information known to the respective parties; and if the arbitrators and counsel use the preliminary conference to adopt suitable procedures that are appropriate to the conduct of a complex case. By taking these useful steps, and embracing flexibility necessary for the conduct of any complex case, international arbitration will retain its status as the satellite industry's preferred dispute resolution mechanism.