I. Aviation Law Developments

In January 1999, House Transportation and Infrastructure Committee Chairman Bud Shuster stated that fiscal year 2000 would be the “Year of Aviation,” and he increased the size of the Aviation Subcommittee from thirty-two to fifty members. Among Shuster’s stated objectives was his plan to take the Aviation Trust Fund off budget in order to reform the Federal Aviation Administration (FAA) and improve the aviation infrastructure of the United States. He also stated that airline competition remained an important issue.

In addition to funding and competition issues, a separate bill proposed by Shuster dealt with safety initiatives, collision avoidance systems on cargo airlines, whistleblower protection for FAA airline employees, national park over flights, and bogus parts. Hearings were held to cover the financial needs and safety of airports, the FAA and the aviation system, including air traffic control, and to examine the economic impact of airports and their improvements on surrounding communities and the economy.

On February 1, 1999, the Department of Transportation (DOT) explained that the key goals of the Clinton administration included the reduction of fatal accidents by eight percent and a significant reduction in airport delays. A seven percent increase in safety funding, over $1 billion, was being sought in 1999. Despite the U.S. government’s stated aim of reducing airline accident and fatality rates drastically, scheduled airline and commuter car-
rier accident rates were up last year from 1998. The regional carrier accident rate rose last year from 0.408 per 100,000 departures to 0.430 with the number of accidents increasing from thirty-three to forty-eight. Fatalities in scheduled commercial aviation accidents involving aircraft with ten or more seats operating under FAR Part 121 rose from zero to twelve—eleven people dying in the American Airlines MD-80 accident in Little Rock last year and one person being killed in a Continental Express ATR 42 accident, also in Little Rock. For the second consecutive year, U.S. charter airlines operating under FAR Part 121 reported no fatal accidents, while the number of accidents fell from seven to four. The charter airline accident rate per 100,000 departures fell from 1.574 to 0.840. Part 135 U.S. regional airline services saw fatalities rise year-on-year from zero to twelve and the accident rate climb from 1.131 to 2.453, more than doubling the rate. However, the U.S. air taxi industry reported one less accident in 1999 than in 1998 as well as fewer fatalities—the number of people killed falling from forty-eight to thirty-eight and the accident rate dropping from 3.03 in 1998 to 2.71 in 1999.5

Secretary of Transportation Rodney Slater stated that the Clinton administration wished to turn the FAA air traffic management into a performance-oriented, user-fee-based system, making it operate more like a business.6 In the same month, the Administration also continued its efforts to promote and enhance domestic competition at airports, and between network carriers and start-ups.7

A. Domestic Competition and the Voluntary Guidelines

The DOT's concerns about domestic competition reflected the continuation of one of the major issues of 1998, which the airline industry was able to defuse by introducing its own voluntary consumer protection initiative. In order to best understand the issues, however, a brief review is in order.

In 1998, the competition issue had been fueled by allegations from regional airlines and consumer groups of predatory practices by the major airlines. Secretary Slater identified these as including fare disparities, lack of service, and complaints by new entrant carriers of anti-competitive practices.8 Congressional leaders joined the fray. Senate Judiciary Committee member Charles Grassley accused the DOT of ignoring a Justice Department analysis claiming that small and medium-sized airports accused the major airlines of using predatory tactics to drive low-cost carriers from the marketplace.9 The Association of Travel Agents (ASTA) and the Coalition of Travel Industry Parity (CTIP) sought legislation that would protect travel agents from alleged competitive abuses. ASTA endorsed Senator John McCain's Aviation Competition Enhancement Act.10


8. Secretary Slater was quoted as saying: "Aggressive competition is good but anti-competitive practices hurt consumers, and it is the Department of Transportation's job to vigilantly watch the market to protect them." Slater Rebuts Reregulation Charges; Insists DOT Wants Strong Competition, AVIATION DAILY, Feb. 4, 1998.

9. Grassley is quoted as saying: "I am increasingly disturbed that the U.S. DOT is not using its statutory authority to maintain airline competition by preventing and punishing unlawful behavior in the airline industry." Senate Judiciary Committee Member Faults DOT for Ignoring DOJ, AVIATION DAILY, Feb. 25, 1998, at 317.


VOL. 34, NO. 2
The airline industry responded vigorously, stating that the DOT's proposed guidelines constituted reregulation of the industry. They insisted that existing antitrust laws and regulations already provided sufficient competition oversight. The Department of Justice's Transportation, Energy and Agriculture Section had issued subpoenas to a number of lower cost carriers seeking evidence of predatory practices or exclusionary conduct by the major carriers.\textsuperscript{11} Numerous hearings were held as congressional interest in the competition issues peaked.\textsuperscript{12} The DOT put forth a proposed airline competition policy.\textsuperscript{13} Senator McCain asked the Government Accounting Office (GAO) to report on the competitive implications of industry consolidation given the potential American-U.S. Airways, United-Delta, and Northwest-Continental alliances.\textsuperscript{14} The resulting debate involved a complex and conflicting array of interests, e.g., labor, travel agents, consumer groups, airports, communities, industry, manufacturers, etc.

The major airlines, led by the Air Transport Association (ATA), mounted an aggressive campaign. They complained of unfair allegations and reregulation.\textsuperscript{15} They alleged that the economic woes of smaller airlines were due to economic mismanagement and not to predation. The anti-competition forces gained political momentum with the addition of a coalition of labor, the National Consumers League, and small airports opposing the guidelines.\textsuperscript{16}

Throughout the first half of 1999, the pressure on the industry continued. At a news conference on March 11, Vice President Al Gore outlined proposed regulations and leg-

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\textsuperscript{11} See Justice Subpoenas Small Carriers on Anticompetitive Practices by Majors, \textit{Aviation Daily}, Feb. 27, 1998, at 333.
\textsuperscript{15} The debate got particularly bitter when the ATA ran full-page advertisements in the \textit{Washington Post} and \textit{Wall Street Journal} attacking the "We-Know-Best" crowd at the DOT. See ATA Runs Ads Attacking DOT Competition Guidelines, \textit{Aviation Daily}, May 15, 1998, at 280.
\textsuperscript{16} See American Pilots Protest DOT Competition Guidelines, \textit{Aviation Daily}, May 26, 1998, at 332. Bowing to the growing political pressure, Secretary Slater agreed to establish a task force on airport practices and their impact on airline competition. See DOT To Study Airport Impact on Competition; Extends Policy Comment Deadline, \textit{Aviation Daily}, May 20, 1998, at 303. As the debate progressed, observers were surprised to see that smaller airports were questioning the wisdom of the competition policy. For example, Arkansas' Airport Commission filed an opposition to the DOT policy because it "would effectively eliminate meaningful competition and would in all likelihood provide an unfair competitive advantage to some smaller carriers . . . providing an artificial shelter for low-fare carriers who provide limited point-to-point service may result in a loss of existing hub carriers." See Arkansas Airport Sees Small Towns Losing Under DOT Competition Policy, \textit{Aviation Daily}, June 5, 1998, at 402. Thereafter, the National Consumers League (NCL) joined labor and small communities in claiming that artificial protection for smaller carriers was not wise competition policy. Rather, the group favored enforcement of existing antitrust laws. See Consumer Group Aligns With Unions; Opposes DOT Competition Policy, \textit{Aviation Daily}, June 16, 1998, at 429. Soon, Senators representing smaller communities joined the opposition. See Frist, Hagel Oppose Competition Policy, Favor Legislation, \textit{Aviation Daily}, June 16, 1998, at 464. The growing opposition culminated in proposals to delay DOT action pending further study. See House Leadership Mulls Options on Competition Rules, \textit{Aviation Daily}, June 22, 1998, at 495. As a consequence, Congress passed the Airline Service Improvement Act, calling for an independent study by the National Academy of Science's National Research Council. See DOT Retains Predatory Enforcement Power But Studies Set Further Battles, \textit{Aviation Daily}, June 26, 1998, at 527.
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islative proposals that would require airlines to disclose their policies on flight cancellations and delays, file monthly reports detailing passenger complaints, disclose code-sharing arrangements, and increase compensation paid to passengers who are bumped from flights or lose luggage. The airlines agreed in principle to address these issues but argued that new regulations or legislation would require them to hire additional staff and raise the cost of tickets. On March 12, 1999, the Business Travel Coalition (BTC) sent an open letter to the chief executive officers of the nation's major airlines urging them to address passenger complaints. By late May, as a result of this ongoing dialogue, the airlines indicated their intent to make customer service improvements, and the House Transportation Aviation Subcommittee recognized it.

Subcommittee Majority Counsel David Schaffer stated that the "airlines say they have gotten the message." Accordingly, he said that the House version of a Passenger Bill of Rights would be watered down and might not be needed at all. Simultaneously, the Senate Commerce Aviation Subcommittee was working on a voluntary approach to passenger rights.

On June 17, 1999, the members of the ATA issued the "Airline Customer Service Commitment," whereby the ATA carriers committed themselves to offer the lowest fare available; to notify customers of known delays, cancellations, and diversions; to make every reasonable effort to assure on-time baggage delivery; to petition the DOT to increase the baggage liability limit from its current maximum liability of $1,250 per bag, in effect since 1984; to allow reservations to be held or canceled for twenty-four hours; to provide prompt ticket refunds; to properly accommodate disabled and special needs passengers; to meet customers' essential needs during long on-aircraft delays; to handle "bumped" passengers with fairness and consistency; to disclose travel itinerary, cancellation policies, frequent flyer rules, and aircraft configuration; to ensure good customer service from code-share partners; and to be more responsive to customer complaints. Each airline was to develop and implement a Customer Service Plan within six months. Congress and the Administration promptly issued warnings that they would be closely monitoring the airlines' compliance with this commitment.

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18. See id.
19. See BTC Urges Airlines to Choose Self-Reforms Over Government Intervention; Window of Opportunity Closing Rapidly, PR Newswire, Mar. 12, 1999, available in WESTLAW, Allnewsplus. BTC representatives who testified at House Transportation Committee hearings held on March 10, cited lack of competition among major airlines as the root cause of customer complaints. Passengers were not the only people complaining. Travel agents complained about an earlier move by United, American, and Delta airlines that lowered the fee schedule that the airlines pay travel agents for booking international flights. Under the new fee scale, a travel agent's commission is now capped at $100 or eight percent of the ticket cost, whichever is less. See also Amy Fletcher, Airlines Take Piece of Agents' Profits/Local Travel Agent Accuse Airlines of Gouging Consumers with Pricing More, Colo. Springs Gazette, Nov. 19, 1998, at BUS1.
B. International Competition

International aviation was marked by significant differences between U.S. and European transportation policies. In 1996, under pressure from U.S. carriers, Congress passed the "Hatch Amendment," designed to provide a level playing field for U.S. carriers by requiring non-U.S. flag airlines to implement the same security requirements as U.S. airlines on flights to and from the United States. The provisions of the Act were designed to go into effect when the FAA passed implementing legislation. At the end of 1998, the FAA issued a Notice of Proposed Rulemaking (NPRM). "The proposed rule would condition the Administrator's acceptance of a foreign air carrier's security program on a finding that the security program requires adherence to the identical security measures that the Administrator requires U.S. air carriers serving the same airports to adhere to." The legislation and NPRM have provoked a storm of protest from the international aviation community. They argue the imposition of U.S. security requirements on flights from outside the United States violates international norms, and specifically article 11 of the Chicago Convention. Consequently, although the Hatch Amendment is law, it had not been implemented by early March 2000; rather, hearings on implementing regulations were still being scheduled.

In a remarkable parallel to the dispute over the Hatch Amendment, the European Parliament issued a regulation on the non-addition of hushkitted aircraft. The European Union (EU) Commission had proposed, and the EU Council passed, a rule that effectively bars the use of hushkitted aircraft in Europe. The United States claims that this rule is clearly discriminatory against the United States, since the manufacture and installation of hushkits is overwhelmingly an American industry. The Europeans explained that the high level of environmental activism regarding noise surrounding European hub airports was responsible for the public pressure behind this ban.

Northwest Airlines filed a complaint with the DOT under the International Air Transportation Fair Competitive Practices Act of 1974, stating that the hushkitting prohibition was in violation of international rules and asking for sanctions against carriers operating from EU countries. In a related retaliatory move, the House Transportation Committee unanimously approved a bill prohibiting flights of the Anglo-French Concorde to the United States if the European Union were to adopt the noise regulations regarding hushkitted aircraft. The European Union has remained committed to its regulation; nevertheless, in response to U.S. pressure, the European Union has delayed implementation of

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31. See Letter from Association of European Airlines, to the Department of Transportation (Feb. 3, 1999) (on file with the DOT).
33. See EU Hushkit Rule, supra note 30.

SUMMER 2000
the rules. U.S. carriers, however, complained that the very existence of the proposal, whether implemented or not, was adversely affecting the value of their equipment. There were reports that EU negotiators were prepared to stay the regulations on condition that the U.S. government commit to an accelerated development of Stage Four noise standards within the International Civil Aviation Organization (ICAO). U.S. negotiators refused to negotiate Stage Four standards under the threat of the regulation. Conversely, the United States was reportedly planning to bring an article 84 proceeding before ICAO. Article 84 is a rarely used provision to determine whether the proposed regulation complies with international aviation standards. In turn, this has added another complication because the Europeans are reluctant to negotiate under the U.S. threat of bringing an article 84 proceeding.

Although both the Hatch Amendment and the hushkit regulations are designed for immediate implementation, neither has gone into effect as a result of the lobbying efforts of industry on both sides of the Atlantic with their respective regulatory authorities.

II. U.S.-U.K. Talks

Throughout 1999, the United States continued its bilateral open skies policy. Most of the major U.S. aviation partners, with the exception of the United Kingdom, have already concluded open skies or liberal bilateral agreements with the United States. Nevertheless, the Bermuda II agreement between the United States and the United Kingdom, concluded in 1977, which allows only two U.S. carriers (United and American) to use Heathrow Airport, remains in place.

The elusive prize of a U.S.-U.K. open skies agreement has remained tantalizingly out of reach. At the end of 1998, after two years of talks, the United Kingdom broke off negotiations, reportedly at the behest of British Airways. British Airways had determined that it would be too costly to surrender valuable Heathrow slots in exchange for approval of their alliance. This failure left regulators on both sides of the Atlantic with a number of unresolved issues. As a result, 1999 began on a note of low expectations.

39. The failure to progress toward open skies repeated the results of the previous round of U.S.-U.K. talks in February 1997, which had ended on a friendlier basis but with no significant progress. The United States considers an open-sky agreement and wider access to London Heathrow Airport prerequisites to approval of the British Airways-American alliance, while the United Kingdom believes approval of the alliance should precede open skies. See U.S. Negotiators Walk Out Of U.S.-U.K. Talks, Cite Lack Of Progress, AVIATION DAILY, Oct. 8, 1998, at 47.
40. The president of British Airways, Robert Ayling, had “pursued this deal with great determination, to the point of infuriating Europe’s competition commissioner, Karel Van Miert. But [Ayling] has so far failed to persuade regulators on both sides of the Atlantic, who are worried about the anti-competitive grip that BA/AA would have on transatlantic traffic. When Mr. Van Miert asked BA to give up 267 slots at Heathrow in return for his approval, Mr. Ayling backed off in favour of a looser, broader alliance, with AA, Canadian Airlines, Cathay Pacific and Qantas.”

creased when British Midland (BM) announced plans to expand to the North Atlantic and to seek an equity partner among the major alliances. This precipitated a year-long series of on-again, off-again, formal and informal talks held between the United States and United Kingdom, with expectations rising and falling like a roller coaster.42 By October 20, 1999, when BM announced its intention to join the Star Alliance, speculation increased that some form of U.S.-U.K. liberalization was at hand. The Star Alliance would now control twenty-four percent of the Heathrow slots and nearly seventy percent of the slots at Frankfurt, compared with British Airways's thirty-eight percent of Heathrow slots.43 The protracted nature of these negotiations had already strained U.S.-U.K. relationships considerably. The commercial decision of British Airways to withdraw from its London-Pittsburgh route served to further exacerbate relationships between the United States and the United Kingdom. This is because the highly restrictive U.S.-U.K. Bilateral Air Transportation Services Agreement does not permit U.S. Airways to take British Airways' place on the abandoned route. As a result, Pittsburgh no longer has non-stop London service. Representative Bud Shuster of Pennsylvania, the powerful Chairman of the House Transportation and Infrastructure Committee, has pressed for vigorous U.S. action against U.K. aviation interests.44 Needless to say, the British Airways-American Airlines One-World Alliance was compelled to continue to operate without code-sharing or any cooperation requiring regulatory approval. At the end of July, the U.S. government terminated the request of American Airlines and British Airways for antitrust immunity relative to their alliance agreement.45

III. Transatlantic Common Aviation Area (TCAA)

Nineteen ninety-nine was the first full year of the new European Commission under the presidency of Romano Prodi. Under the previous Commission, the director-general for


43. See British Midland Decides on Star Alliance, Begins Talks With Lufthansa, AVIATION DAILY, Oct. 20, 1999, at 2; see also Lufthansa Acquires Stake in British Midland, AVIATION DAILY, Nov. 10, 1999, at 2.


SUMMER 2000
competition had instituted an investigation into transatlantic alliances and indicated that he was prepared to finalize a statement of objections with remedies. By the summer of 1997, the Commission had also instituted legal action against eight member states that had entered into open skies agreements with the United States (Austria, Belgium, Denmark, Finland, Germany, Luxembourg, Sweden, and the United Kingdom), alleging violation of the Treaty of Rome. The issue underlying the Commission's aggressive action against the carriers and the member states was the protracted delay in the granting of a mandate giving the Commission competence to negotiate external aviation agreements.

In an effort to get off on the right foot with the new Commission, the Association of European Airlines (AEA) published a policy statement, "Towards a Transatlantic Common Aviation Area." The statement, endorsed unanimously by the twenty-eight members of the AEA, declared:

46. In the summer of 1996, as a result of British Airways/American Airline's announcement that they would seek antitrust immunity from the United States, the European Commission began an investigation into airline alliances in general. On July 3, 1996, the Commission announced a procedure based on article 89 of the EU Treaty, intended to enable the Commission to assess the compatibility of airline alliance agreements with EEC rules on competition. See European Commission Mounts Competition Probe of Six Alliances, AVIATION DAILY, July 8, 1996, at 29; E.C. Advisers See 350 Fewer Slots, Service and Marketing Limits on AA-BA, AVIATION DAILY, July 21, 1997, at 115. It soon became apparent that the Commission was prepared to make similar proposals with respect to the other trans-Atlantic alliances. See As E.C. Waits for American/BA Response, American Says It Has Set the Bar Too High, AVIATION DAILY, Aug. 25, 1997, at 341. In January 1998, the European Commission expanded its inquiry into Air France's alliance agreements with Delta and Continental. The Commission indicated that this could lead to a statement of objections. See AVIATION DAILY, Jan. 8, 1998. On July 8, 1998, the Commission proposed that certain alliances: (1) reduce frequencies on certain hub to hub routes; (2) surrender slots at both U.S. and European airports under specified circumstances; (3) regulate alliance corporate volume discounts and travel agent override commissions; and (4) restrict joint operation of frequent flyer programs. See U.S. Dep't of Transportation Docket OST-98-4030, (July 8, 1998) at 7. To counter the Commission's investigation, United Airlines filed a complaint with the DOT under the International Air Transportation Fair Competitive Practices Act of 1974, 49 U.S.C. § 41310 (1999) (as amended), alleging that the Commission's actions violate U.S. bilateral rights with specific member states and "reflect an indirect assault on the fundamental, and successful, U.S. aviation policy of negotiating Open Skies agreements with individual European countries." See DOT Docket OST 98-4030, supra, at 4.

47. On March 12, 1998, the Commission announced its intention to bring suit in the European Court of Justice against the eight member states that have entered into liberal agreements with the United States because the signing of bilateral aviation agreements with the United States violates EU law. EU Transport Commissioner Neil Kinnock stated "[b]y unilaterally granting U.S. carriers traffic rights to, from and within the EU, while ensuring exclusively for their own air carriers the right to fly from their territory to the United States, these Member States create serious discrimination and distortions of competition, thereby rendering E.U. rules ineffective." European Commission, Commission Takes Future Legal Action Against Member States' "Open Skies" Agreement with the United States, Press Release IP/98/231 (Mar. 11, 1998), available at <http://europa.eu.int>. "Article 169 of the Treaty provides a procedure to deal with all infringements of EU law. When a potential case emerges, the Commission usually first uses informal meetings/letters to try and resolve the problem. If informal talks fail, the Commission sends a letter of formal notice to the Member State concerned asking for explanations. If these explanations are not fully satisfactory, the Commission delivers a reasoned opinion. The reasoned opinion sets out the Commission's reasons of believing that the Member State concerned is breaking the law. If the State concerned does not comply with the opinion, the Commission may bring the case to be heard at the European Court of Justice in Luxembourg." Id.; see also EU:EU/air Transport Commission Takes Action Before the Court of Justice Against the Eight Member States That Have Concluded Open Skies Agreements With the United States, AGENCE EUROPE, Oct. 10, 1998.

If the airlines are to meet successfully the challenges of increasing globalization and large scale competition, they must have the freedom to adapt their structure and operations to the pace of change... This requires broad regulatory reform... The essential first step should be the establishment by the EU and the US of a Transatlantic Common Aviation Area, membership of which should be open to other states as well.\textsuperscript{49}

The AEA policy would pave the way for the member states to grant the Commission the competency to negotiate this comprehensive agreement with the United States. The main elements of the AEA’s statement contain what the AEA claims are detailed and realistic proposals on how to bring about the necessary regulatory convergence in a TCAA: “matters in respect of which harmonization is necessary; those in respect of which convergence could take the form of mutual recognition; and those which could in principle be left at the discretion of each party.”\textsuperscript{50} According to the AEA, “[t]hese essential core features of the agreement are: the freedom to provide services; airline ownership and the right of establishment; competition policy; leasing of aircraft.”\textsuperscript{51}

“Constructing a Transatlantic Common Aviation Area is a dynamic, evolutionary process.”\textsuperscript{52} The policy statement argues that special institutional arrangements are required: in particular, a body well equipped to ensure the proper day-to-day running of a system designed to promote and maintain regulatory convergence on an ongoing basis, in response to changing requirements. Replacing the present regulatory regime with that of the TCAA may, in certain cases, require temporary derogations from the agreed common rules, to allow for a progressive removal of existing restrictions. Such transitional arrangements may be justified where the new regime leads to substantial liberalization of market entry and access, either in all markets or in specific countries where, so far, access restrictions apply. The policy statement argues that EU member states requiring such arrangements should essentially be free to negotiate the terms, without burdensome preconditions other than some basic minimum requirements concerning the duration of the transitional period and the need to ensure reciprocity and non-discrimination among EU member states and their airlines during such a period.\textsuperscript{53}

On October 22, 1999, the chief executives of the AEA member carriers formally presented the Policy Statement on the TCAA to the European Commission.\textsuperscript{54} Loyola de Palacio del Valle Lersundi, the EU commissioner of transportation, has favorably referred to the TCAA, and it appears that the TCAA may be the cornerstone of a European Commission mandate.\textsuperscript{55}

On December 5–7, 1999, the DOT, led by Secretary Slater, sponsored a conference in Chicago, attended by over 900 high-level aviation leaders from over sixty-two countries, entitled “Aviation in the 21st Century—Beyond Opens Skies Ministerial.” The meeting was held in the same room where the original Chicago Convention was negotiated. The purpose of the meeting was to create a forum for the world’s aviation leaders to focus cooperatively

\textsuperscript{49} Id.
\textsuperscript{50} Id.
\textsuperscript{51} Id.
\textsuperscript{52} Id.
\textsuperscript{53} See id.
\textsuperscript{54} See id.
on aviation issues in the twenty-first century. Included among the matters discussed were the elimination of operating restrictions and barriers that restrict aviation and economic growth, the encouragement of new approaches to aviation issues, including alliances, multilateral arrangements, technology, and international cooperation. Other objectives included the promotion of continuing expansion of aviation and, most of all, the creation of a cooperative atmosphere of dialogue among the world’s aviation leaders.56

The conference was declared a success by the DOT. Secretary Slater said the discussions concluded that the “future evolution of a post-open skies aviation environment is likely to advance on a broad front, in many directions, rather than down a single path” and that the movement beyond open skies is likely to occur “in phases.”57 He also stated that the conference produced “significant results . . . and the identification of [many matters] of crucial importance for the future of international aviation.”58

Buoyed by positive relations between the European carriers, particularly the TCAA initiative and Secretary Slater’s Chicago Conference, the new millennium is beginning on a positive note. With the elections promising a new administration in 2001, the coming year could provide the time to develop major new directions in aviation.

IV. Space Law Developments

A. U.S. Space Program and Policy Developments

During 1999, the U.S. National Air and Space Administration (NASA) found itself struggling to keep significant milestones from being overshadowed by the continued delays in the progress of the international space station and the fiasco involving the Mars Climate Orbiter. Months before it was due to rendezvous with Mars, the $124 million Orbiter was rendered defunct as a result of the spacecraft team’s failure to make a metric conversion.

One of NASA’s primary programs, the International Space Station (ISS), continued to experience significant delays throughout the year. The close of 1999 found the Russian Zvezda Service Module still on the ground, with no sign of the launch of this critical component of the space station in sight.59 In addition, in NASA's effort to address management issues relating to the ISS, it requested the National Research Council (NRC) to explore the viability of establishing a nongovernmental organization to oversee the management of research activities on and use of the ISS, including commercial activities.60 The NRC issued this report in January 2000, strongly urging that NASA pursue this effort.61

Another program being pursued by NASA relating to reusable launchers, the $1.3 billion X-33 program, experienced setbacks when an experimental liquid hydrogen fuel tank was damaged in November while on the test stand.62

58. Id.
61. See NRC Panel Urges NASA to Move Quickly Establishing Station NGO, AEROSPACE DAILY, Jan. 12, 2000, at 57.
Nevertheless, NASA was able to point to a number of successes, including significant research gains by NASA's various orbiting observatories like the Hubble Space Telescope, Galileo, and the Mars Global Surveyor. In addition, 1999 saw the successful deployment of the Chandra X-Ray Observatory and launch of the space shuttle Columbia with the first female flight commander, U.S. Air Force Col. Eileen Collins, at the controls.

B. Legal Developments and Events

Developments in the legal arena saw trends in the U.S. regulatory regimes governing various aspects of the aerospace and defense industries, including revisions and refinement of export controls, licensing requirements, and activities subject to U.S. governmental approval. The industry proved to be a continually evolving and dynamic field, with various mergers, acquisitions, and dissolutions of industry players and sectors (both within the United States and internationally) occurring or verging on occurring throughout 1999.

C. U.S. Export Controls

On March 15, 1999, the Strom Thurmond National Defense Authorization Act of Fiscal Year 1999 was enacted, altering the scope of U.S. export controls and regulations. This legislation transferred jurisdiction for a significant number of space-related items from the U.S. Commerce Department to the U.S. Department of State. Most significantly, commercial satellites and satellite-related hardware were expressly identified as "defense articles" and placed on the U.S. Munitions List (USML) of the International Traffic in Arms Regulations (ITAR). In addition, technology and technical services related to commercial satellites were also specifically defined as "defense services," subject to the restrictions of the ITAR. The transfer of jurisdiction thus placed commercial satellites and all related technology (including related services) under the same strict regime of scrutiny, control, and monitoring governing other munitions such as tanks, military aircraft, and artillery. Failure to comply with the ITAR can result in both individual and organizational criminal sanctions. Thus, the practical result of the transfer was to make it more difficult for U.S.

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65. Id. The U.S. Department of State and Department of Commerce have shared responsibility for licensing the export of commercial communications satellites since 1992. In 1996, the majority of the various aspects of licensing responsibility shifted even more into the jurisdiction of the Commerce Department. Concerns over the transfer of sensitive technology to the People's Republic of China, however, led to the passage of legislation in 1998, returning control of all aspects of commercial communication satellites and related technology back to the State Department.
66. See 22 C.F.R. §§ 120-30 (1999) (promulgated under the Arms Export Control Act (AECA)). The ITAR controls the export of all items considered to be defense articles or services, and thus subject to the jurisdiction of the Department of State, Office of Defense Trade Controls (DTC).
67. The U.S. Munitions List (USML), contained in 22 C.F.R. § 121, sets forth specified articles that are deemed to have substantial military application, or that are specifically designed or modified for military purposes. The USML also covers technical data (not limited to classified information) relating to defense articles, as well as any information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles. 22 C.F.R. § 120.10. If an item is placed on the USML, the export of such items is regulated exclusively by the State Department, unless otherwise indicated in the ITAR. See 22 C.F.R. § 120.5.

SUMMER 2000
companies in all spacecraft-related sectors to engage or to continue engaging in business with non-U.S. firms or entities.

V. Commercial Launch Vehicles

In June 1999, the FAA Final Rule on Commercial Space Transportation Licensing Regulations (Final Rule) took effect. The Final Rule clarifies license application procedures and requirements, including the requirements imposed upon use of federal launch ranges relating to commercial space transportation that are governed by the Commercial Space Launch Act of 1984 (the Act). The revisions put into effect through the Final Rule clarified aspects regarding the scope of a launch license, the criteria for obtaining a license for expendable launch vehicles, launching from federal launch ranges, and the underlying safety rationale for the FAA's launch licensing regime. In addition, the Final Rule notes that the FAA will now consider licensing the operation of a launch site or the launch of a launch vehicle from a site that is not operated by a federal launch range on a case-by-case basis.

VI. Significant Events

Internationally, the U.N. Conference on Peaceful Uses of Outer Space, Unispace-3, opened in Vienna, Austria during June 1999. Udi Ramchandra Rao, a member of the Indian Space Commission, was elected chairman of the conference.

In October 1999, the German and French governments announced a merger between DaimlerChrysler Aerospace AG of Germany and Aerospatiale Matra and Marconi Electronic Systems of France. The fruition of the merger, anticipating approval by the European Commission sometime in early 2000, is expected to create a subsidiary called Astrium, which will eventually incorporate the space division of Italy's Alenia Aerospazio. With over 8,000 employees and annual revenues in excess of $2 billion, the trinational European venture will be the largest space company in Europe.

On the U.S. front, the U.S. House of Representatives passed legislation in November 1999 permitting Lockheed Martin Corp. to complete its planned acquisition of Comsat Corporation, as the two companies had announced in September 1998. In September 1999, the U.S. Federal Communications Commission (FCC) gave its blessing to Lockheed Martin's plan to acquire forty-nine percent of Comsat Corporation. Lockheed Martin was prohibited from purchasing any more Comsat shares, however, without legislation updating the 1962 Communications Satellite Act, which limited the amount of ownership of the U.S. government-created Comsat Corporation by any one shareholder. Efforts to reach accord on any finalized legislation in 1999 were stymied by the inability of the House and

69. See 49 U.S.C. §§ 70104-21 (1984). The Act authorizes the U.S. Secretary of Transportation to oversee, license, and regulate commercial launch activities and the operation of launch sites that are carried out by U.S. citizens or within the United States. The Act also directs the Secretary of Transportation to administer his responsibilities pursuant to the Act in a manner consistent with ensuring public health and safety, the safety of property, and the national security and foreign policy interests of the United States, and to encourage, facilitate, and promote commercial space launches by the private sector. Id. at §§ 70103-05.
71. The U.S. Senate had passed its own version of legislation addressing the proposed merger earlier in 1999.
the Senate to reach an agreement on provisions incorporated into the legislation that were designed to force the International Telecommunications Satellite Organization (INTELSAT) to privatize along the lines of the U.S. government’s desires and demands.

The two primary international telecommunications organizations, the International Maritime Satellite Organization (INMARSAT) and INTELSAT, continued their efforts to privatize and become commercial entities. In April 1999, U.K.-based INMARSAT was the first to privatize, bringing over three years of intergovernmental negotiations by its eighty-four member countries to closure. Meanwhile, INTELSAT, with its larger membership of 143 countries (including the United States), continues in its laborious progress to evolve into a private and commercial entity by its stated target date of April 1, 2001, despite having to continually deal with pressure being exerted by the U.S. Congress to allow the U.S. government to dictate the terms of the intergovernmental efforts towards privatization.

The satellite operator industry as a whole also saw a spectacular rise and fall of numerous ventures into the lower-earth and middle-earth orbits. The most widely publicized, Iridium, was a $5 billion effort to launch a satellite constellation of sixty-six satellites in lower-earth orbit to provide mobile voice and data services. After launching itself as a high-flying stock, it quickly plummeted into Chapter 11 bankruptcy after it became clear that the product was prohibitively expensive and considered unmanageable by the available market. Similarly, ICO’s $3.5 billion business plan to operate a ten-satellite fleet in middle-earth orbit was stymied by its inability to get a single satellite successfully launched. Perhaps the most successful of the new ventures by comparison, Globalstar, a $4 billion venture with a planned constellation of forty-eight satellites, nevertheless stepped into the unwelcome limelight with a launch failure in 1999 that cost it twelve of its satellites in one blow.

The space industry as a whole met the challenges presented in 1999, but its performance with regard to maintaining the ability to assess, implement, and bring to market technology developments occurring at breakneck speed and to adequately address the constant divergence between regulatory and political concerns on both the domestic and international levels was somewhat sub-standard. It is clear that the industry must seek to forge a stronger, more cohesive relationship with the pertinent national agencies and achieve greater flexibility and innovation in meeting international market demands without sacrificing national security and foreign policy concerns. Given the matrix of complex legal, regulatory, political, and policy-based issues that affect this business sector, the upcoming year promises to bring significant challenges in reaching these objectives.

73. In March 2000, the controversial Open-Market Reorganization for the Betterment of International Telecommunications Act (the ORBIT Act) passed both houses of Congress. S. 376, 106th Cong. (1999). While the ORBIT Act contained language assisting Lockheed Martin in its attempt to acquire Comsat Corporation, it also contained provisions that imposed stringent and controversial mandates upon INTELSAT and its efforts to negotiate intergovernmental agreements amongst all of its member countries with regard to INTELSAT’s privatization. Strong objections to the ORBIT Act were registered and presented to the U.S. Congress by White House staff, the Departments of State and Commerce, and the FCC. Nevertheless, U.S. domestic interests (in particular, those of Lockheed Martin which required legislative authorization for its merger with Comsat) continued the forward momentum of the ORBIT Act to its passage.

74. Woeful news continued to follow ICO into the year 2000. On March 12, 2000, the attempt to finally launch the first ICO satellite (built by Hughes) turned out to be unsuccessful when Sea Launch’s Zenit 3SL launch vehicle upon which the spacecraft rode malfunctioned, causing it and its payload to plunge into the Pacific Ocean. See Justin Ray, Disaster Strikes Sea Launch Carrying First ICO Satellite, SPACEFLIGHT, Mar. 13, 2000, available at <http://www.spaceflightnow.com/sealaunch/icol/index.html>.