

# Aviation and Aerospace Law

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## I. Aviation Law Developments

The year 1997 began with significant aviation events on both sides of the Atlantic. In Europe, at the request of British Airways, the European Commission held a hearing on the long-stalled agreement between British Airways (BA) and American Airlines (AA).<sup>1</sup> The hearing focused on European concerns regarding the continued growth of airline alliances driven by the U.S. Government's linkage of open-skies bilateral air transport services agreements with antitrust immunity. It highlighted a process that appears to be leading to a growing role for the Commission in transatlantic air transport, despite the lack of a mandate from the European Council.

At the same time in the United States, the Gore Commission was concluding its recommendations (the Gore Report).<sup>2</sup> This underscored a media preoccupation with airport security and safety issues at a time when the Federal Aviation Administration (FAA) is undergoing a structural transition. The Commission had been established in 1996 during the aftermath of the TWA Flight 800 accident. In that year, 380 people died in aircraft accidents, the most in any year since 1985.<sup>3</sup> No one knew at the time that 1997 would be one of the safest years with only three deaths occurring on major airlines.<sup>4</sup>

Other issues of importance in 1997 included: (1) the imposition of new fees and taxes in the

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1. Eur. Comm'n, Directorate General IV, Case no. IV/36.089-BA/AA.

2. Final Report to President Clinton, White House Commission on Aviation Safety and Security, Vice President Al Gore, Chairman, Feb. 12, 1997, available in <[www.aviation.commission.dot.gov/final.html](http://www.aviation.commission.dot.gov/final.html)>.

3. Eur. Comm'n, *supra* note 1.

4. Randolph E. Schmid, *Airline Fatalities Drop in 1997*, THE ASSOCIATED PRESS, Feb. 24, 1998, available in 1998 WL 66428701.

United States, (2) the Kyoto Conference on emissions and the environment, (3) the inter-carrier agreements on international passenger liability limitations, (4) *El Al Israel Airlines, Ltd. v. Tsui Yuan Tseng*,<sup>5</sup> (5) developments in electronic commerce, and (6) litigation involving expanding social obligations.

#### A. GLOBALIZATION OF AVIATION: AIRLINE ALLIANCES

The globalization of the airline industry reached a fever pitch in 1997. In Europe, the European Commission expanded its investigation into the proposed British Airways/American Airlines agreement to include other airline alliances, such as: (1) Northwest/KLM,<sup>6</sup> (2) the Star Alliance (consisting of Lufthansa, United, SAS, Thai, and Singapore Airlines), and (3) Delta, Swissair, Sabena, and Austrian Airlines. Following hearings on BA/AA in February 1997, the Commission issued a statement of objections in July. Thereafter, the press reported extensively on the intensive negotiations. In exchange for approving the BA/AA alliance, the Commission is said to be seeking economic and commercial concessions from the two carriers. These concessions could include surrendering over 300 slots at London's Heathrow Airport; opening the companies' frequent-flyer programs to other carriers; restricting the nature of corporate incentives and travel agent commissions; and reductions in frequencies. The Commission's determined action in this area during 1997 took place despite the Council of the European Union's refusal to expand the Commission's mandate regarding external aviation affairs.

While the Commission's investigation is still pending, AA nevertheless has continued to expand its alliances. American Airlines spent much of 1997 pressing the U.S. Department of Transportation (DOT) to approve its code-sharing arrangement with Central America's Taca Airlines. At the same time, AA has further strengthened its South American airline relationships with an agreement to invest in Aerolineas Argentina and to code-share with Lan-Chile,<sup>7</sup> whose government concluded an open skies agreement with the United States and requested antitrust immunity. In addition, AA has concluded alliance agreements with Avianca of Venezuela, LAPSA of Paraguay, and TAMS of Brazil. Not to be outdone, United Airlines obtained approval to code-share with Mexicana Airlines and has concluded an alliance with Varig Airlines of Brazil. Delta, Varig's former partner, has concluded an alliance with Trans Brazil and Aeromexico. American Airline's interest in investing in Aerolineas Argentina led to AA and BA agreeing to bring Iberia Airlines into their transatlantic alliance. In this connection, there have been reports that AA and BA are prepared to take small equity positions in Iberia (five percent each). American Airlines has one of the most comprehensive code-sharing agreements in the world with Canadian Airlines.<sup>8</sup> Continental, America's second largest South American carrier,

5. *El Al Israel Airlines, Ltd. v. Tsui Yuan Tseng*, 122 F.3d 99 (2d Cir. 1997), *petition for cert. filed*, 66 U.S.L.W. 3203 (U.S. Oct. 1997) (No. 97-475).

6. In December 1997, KLM and Alitalia announced a memorandum of understanding to enter into a long-term commercial agreement.

7. DOT's schedule for the American-Lan-Chile antitrust immunity proceeding required parties to file comments on the application by March 16, 1998, and replies to comments by March 25, 1998. The department will consolidate into this proceeding Lan-Chile's accompanying application for exemption authority to U.S. points and the American-Lan-Chile authorization for reciprocal code-share service. DOT also is incorporating confidential information filed in the separate American-TACA code-share case, which includes information on planned arrangements with Aerolineas Argentinas, Austral, and Iberia, as well as with TACA Group. (Dockets OST-97-3285, 2982). AVIATION DAILY, Feb. 23, 1998.

8. The two companies operate more than 1,400 transborder flights per day to approximately 100 U.S. destinations. In addition to American Airlines, Canadian Airlines' alliance partners include British Airways, Japan Airlines, and Qantas.

has so far failed to achieve alliance status in South America; nevertheless, during 1997, Continental negotiated a major alliance agreement with Northwest, which was finalized in January 1998.

While these developments were occurring in the transatlantic and the North and South American markets, protracted and often contentious negotiations were occurring between the United States and Japan. These negotiations began with the U.S. Government seeking a commitment to open skies. During the process, it became apparent that the Japanese would only countenance an incremental liberalization which would provide full status for Japan's All Nippon Airlines (ANA) under the U.S.-Japan bilateral agreement. In return, the Japanese were prepared to concede that Federal Express could enjoy the benefits the United States claimed it had obtained when it acquired Flying Tigers. The Japanese were also prepared to offer limited route opportunities for other U.S. carriers. The major incumbent carriers on both sides, Northwest and Japan Airlines (JAL), vigorously and publicly objected. Northwest protested the failure to secure open skies. JAL questioned the value to Japan and the need for a new agreement at all. Northwest accused United Airlines of "switching sides."<sup>9</sup> According to Northwest,

United finally figured out that it never could catch Northwest in the Pacific . . . United's plan was to take down the Pacific networks of both United and Northwest and use their huge domestic advantage to strengthen Chicago at the expense of Detroit and Minneapolis . . . United was willing to sacrifice its Pacific network because it was poised to form a mega-alliance with Japan's All Nippon Airways (ANA). Under that scenario, United would carry the ball on the U.S. end and ANA would take care of business in the Pacific. By the same token, American would partner with Japan Airlines in a second mega-alliance.<sup>10</sup>

American and Delta formed an organization called "Access U.S.-Japan," headed by former Virginia Governor, Gerald Baliles. United formed a group called "Midwest-Asia Coalition," headed by Illinois Governor Jim Edgar, Chicago Mayor Richard Daley and former U.S. Representative Robert Michel. These groups accused Northwest of raising the "impossible demand" of open skies to selfishly protect its Japanese position. These groups argued that there would be substantial economic benefits for the U.S. economy in an incremental agreement.<sup>11</sup> In the end, the United States and Japan concluded a bilateral agreement on January 30, 1998, that opens Japan to more flights from the United States and allows certain U.S. carriers to pick up passengers and cargo in Japan and fly them to other countries in the Far East.<sup>12</sup>

While the major airlines were moving towards cooperation on a global scale, the aerospace and aviation manufacturing industry moved towards consolidation. The largest transaction of the year occurred when Boeing acquired McDonnell Douglas Corporation. International antitrust law issues and business rivalry between the European Union and the United States continued to play important roles. First, it was necessary for Boeing to obtain U.S. antitrust clearance from the Federal Trade Commission, which it did on July 1, 1997.<sup>13</sup> It then became necessary to obtain the approval of the European Union, which was anxious to protect the European consortium, Airbus Industrie.<sup>14</sup> Such approval was obtained on July 23, 1997, but only after

9. *U.S.-Japan Pact Means More Competition*, NORTHWEST AIRLINES PASSAGES, Feb. 20, 1998, at 1.

10. *Id.*

11. *See also Phasing in Open Skies With Japan*, CHI. TRIB., July 3, 1997.

12. *U.S., Japan Ink Aviation Deal*, COLO. SPRINGS GAZETTE, Jan. 31, 1998, at A5.

13. Adam Bryant, *McDonnell-Douglas-Boeing Merger Wins FTC Approval*, WALL ST. J., July 2, 1997.

14. Steven Pearlstein, *Boeing Yields to Key EU Demand to Win Approval of McDonnell Deal*, WASH. POST, July 23, 1997.

the European Union insisted upon, and obtained from Boeing, the elimination of exclusive supply contracts for the provision of aircraft that Boeing had negotiated with American, Delta, and Continental Airlines.<sup>15</sup> Ultimately, the *raison d'être* of such consolidations is the increasing costs of aircraft development and manufacturing coupled with the concomitant pressures to reduce these costs and achieve economies of scale. Because of the transatlantic rivalry for the defense, civil aviation, and aerospace markets, and the fact that transatlantic two-way trade in merchandise between the European Union countries and the United States accounts for more than \$270 billion per year, the involvement in, and review by, the European Commission of a large, aviation-related transaction can be expected to continue.<sup>16</sup>

## B. AVIATION SAFETY AND SECURITY

The Gore Report must be seen against the backdrop of the FAA's implementation of changes that had been mandated by the Federal Aviation Act of 1996.<sup>17</sup> This, in turn, was done under the scrutiny created by Mary Schiavo, former Inspector General of the Department of Transportation,<sup>18</sup> and others who have criticized Agency practices. In the midst of these changes and charges, Jane F. Garvey began her tenure as the fourteenth Administrator of the FAA.<sup>19</sup>

The Gore Report recommended the following changes to current practices as a way to meet its goal of reducing the aircraft accident rate by eighty percent over ten years: (1) accelerated completion of improvements to the air traffic control system by 2005 (instead of 2012, the current target date); (2) FBI checks of all airport and airline employees who have access to secure areas no later than mid-1999; (3) better inspection of luggage and random inspection of airmail packages weighing more than sixteen ounces to prevent terrorists from planting bombs on board aircraft; (4) FAA dissection of older aircraft parts (pumps and wiring) to identify age-related problems that could be safety hazards; and (5) mandatory safety restraints for children younger than two (if adopted, this recommendation would require parents to purchase a ticket for these children instead of carrying them on their laps, as may currently be done).<sup>20</sup> The Commission also endorsed the use of computer-assisted passenger profiling programs to identify passengers who are more likely to pose a threat, an approach mandated by Congress in the Federal Aviation Reauthorization Act of 1996<sup>21</sup> but one which has been criticized by the American Civil Liberties Union and groups that feel that their members will be subjected to more scrutiny and inspection.<sup>22</sup> While the White House Commission was still

15. Michele Kayal, *Boeing gives in but doesn't lose, analysts say*, J. OF COMMERCE, July 24, 1997.

16. *European Union Oks Boeing Deal with McDonnell*, L.A. TIMES, July 24, 1997. See also Edmond L. Andrews, *Boeing Concession Averts Trade War with Europe*, N.Y. TIMES, July 24, 1997, paragraph 5, stating: "While a trade war was avoided, experts on both sides of the Atlantic said increasing economic globalization would make further disputes like this one inevitable."

17. Federal Aviation Administration Reauthorization Act of 1996, Pub. L. No. 104-264 (1996). These changes included the establishment of a permanent management advisory council and the establishment of the National Civil Aviation Review Commission. Other changes included pilot record keeping, the Aviation Family Assistance Act and Airport Revenue Diversion.

18. In her book, *FLYING BLIND, FLYING SAFE*, (1997), Mary Schiavo describes problems she encountered with the FAA while she was Inspector General. A summary of her book appears in TIME, Mar. 31, 1997, at 52.

19. *About the Federal Aviation Administration* <www.faa.gov> (last updated April 24, 1998).

20. *Id.*

21. Pub. L. No. 104-264, § 307 (1996).

22. *Passengers Will Be Compared to Profiles*, COLO. SPRINGS GAZETTE, Jan. 1, 1998, at A5.

meeting, the FAA acted unilaterally to encourage airlines to adopt practices that will reduce accidents and safety mishaps. On February 1, 1997, it started posting information about airline safety records on the Internet.<sup>23</sup> That action followed another FAA order, issued to Boeing in January, which requires Boeing to change the rudder controls on all of the approximately 1,100 Boeing 737s that are operated in the United States.<sup>24</sup> The Commission recommendation and other changes that are being made may be necessary to head off a significant increase in commercial aircraft accidents. If the current rate of one fatality for every 0.3 million departures<sup>25</sup> is not reduced, some project there will be one major accident a week shortly after the year 2000 when U.S. airlines are carrying approximately 700 million passengers per year.<sup>26</sup> Some would argue that the recently released statistics from the National Transportation Safety Board that show there were only three fatalities on United States flag carriers in calendar year 1997, compared with 342 the previous year (due primarily to the TWA 800 and ValuJet crashes),<sup>27</sup> suggest that this fear may be exaggerated.

The FAA and the airlines were not the only segments of the aviation community to garner unwanted attention. On February 6th, Air National Guard F-16 pilots triggered the Traffic Alert and Collision Avoidance System (T-CAS) on board Nations Air Flight 727 that was en route to John F. Kennedy (JFK) International Airport, causing the pilot of that commercial aircraft to take evasive action.<sup>28</sup> Two days later, there were three more encounters: an American Eagle turboprop also bound for JFK was intercepted by four F-16s; two F-16s triggered the T-CAS in an American Airlines MD-80 near Clovis, New Mexico; and a Northwest Airlines A-320 encountered an F-16 near Palacios, Texas.<sup>29</sup> Because of these incidents, the Air Force suspended flights off the East Coast in areas where commercial airliners fly and began a review of its procedures. The National Transportation Safety Board (NTSB) also initiated an investigation.<sup>30</sup> Later in 1997, the Air Force and Navy suffered the loss of several aircraft in training accidents, including an F-117 stealth fighter that crashed on September 14th because maintenance workers forgot to reinstall bolts that secure a wing.<sup>31</sup>

At the end of 1997, the NTSB and FBI released findings reached after the very extensive investigation of the TWA Flight 800 tragedy. The FBI concluded that there was no evidence of criminal conduct<sup>32</sup> and in a meeting held in Baltimore, Maryland, which was attended by

23. *FAA Approves Air-Safety Disclosures*, COLO. SPRINGS GAZETTE, Jan. 30, 1997, at A7.

24. Matthew L. Wald, *F.A.A. to Require Repair of Rudders*, N.Y. TIMES, Jan. 16, 1997, at A1.

25. See 'Profiling' Plan Hits Turbulence, *supra*, note 22. In 1997, U.S. airlines carried almost 574 million passengers. If current trends persist, that number will rise to over 925 million passengers by the year 2008. See *Strong economy fueling rise in commercial plane travel*, COLO. SPRINGS GAZETTE, Mar. 5, 1997, at A5.

26. Mary Schiavo heard the prediction of one major accident a week in a FAA briefing she attended while Inspector General of the Department of Transportation. See *Flying Blind*, TIME, Mar. 31, 1997, at 55.

27. Schmid, *supra*, note 4. However, there was an increase to forty-six fatalities from fourteen in 1996 on the nation's smaller airlines. Moreover, the total number of accidents increased by ten to forty-two. Private plane fatalities in 1997 numbered 646, an increase of fifteen over 1996.

28. Matthew L. Wald, *Air Force Orders a Review of Rules and Curbs Flights*, N.Y. TIMES, Feb. 8, 1997, at A1; *F-16s Nearly Hit Commercial Jetliner*, COLO. SPRINGS GAZETTE, Feb. 8, 1997, at A9.

29. Matthew L. Wald, *Fighters Fly Too Near Airliners in 2 More Mistakes by Air Force*, N.Y. TIMES, Feb. 11, 1997, at A11.

30. *Id.*

31. *Missing Bolts Blamed in Crash*, COLO. SPRINGS GAZETTE, Dec. 13, 1997, at A13.

32. Benjamin Weiser, *Re-enacting Flight 800, F.B.I. Explains Finding of No Crime*, N.Y. TIMES, Nov. 19, 1997, at A1.

families of those who died in that tragedy, the NTSB presented interim findings.<sup>33</sup> The investigation to determine the cause of this accident has been one of the most expensive ever conducted.<sup>34</sup> It has generated new FAA rules that should decrease the probability of another fuel tank explosion on aircraft already flying<sup>35</sup> as well as some changes in how fuel tanks on new aircraft are designed and built.<sup>36</sup> In addition, it has changed the way the NTSB and other government agencies "meet the needs of aviation disaster victims and their families."<sup>37</sup> The flying public was also reminded at the end of 1997 about the dangers of unexpected turbulence, the leading cause of injury to passengers and flight attendants. On December 29th, one passenger was killed and 102 were injured when United Airlines Flight 826 rapidly lost altitude while on a flight from Narita, Japan, to Honolulu.<sup>38</sup> The captain reported that he had turned on the "fasten seat belt" sign but that some passengers had ignored the warnings. This incident raised the issue of whether medical kits carried on board aircraft are adequate and, shortly thereafter, Delta and AA announced that they would expand medical kits on their domestic flights to include heart defibrillators.<sup>39</sup> In a related but separate action, the widow of a passenger who died after he suffered a heart attack while on board a United Airlines flight sued the airline because there was no defibrillator in the on-board medical kit for the crew to use when they attempted to resuscitate him.<sup>40</sup> United has now announced that it also will add defibrillators to its medical kits.<sup>41</sup> Other issues involving safety also surfaced last year. In July, the FAA ordered the airlines to upgrade flight data recorders which are carried on board commercial aircraft.<sup>42</sup> The new recorders will increase the number of functions tracked from the current minimum of twenty-nine to a new standard of fifty-seven in three years and a further increase to eighty-eight in five years.<sup>43</sup> In December, the airlines also agreed to install ground avoidance radar on all 4,300 commercial airliners.<sup>44</sup>

33. Although there is general agreement that TWA Flight 800 was destroyed due to an explosion in the center fuel tank, at the meeting in Baltimore "NTSB Chairman James Hall said his investigators can't cite a likely cause for the fuel-tank explosion . . ." *TWA crash still a mystery, but new rules improves safety*, COLO. SPRINGS GAZETTE, Dec. 7, 1997, at A9. See also, Matthew L. Wald, *F.B.I. Inquiry Over, Safety Board Seeks Flaw in Flight 800*, N.Y. TIMES, Nov. 14, 1997, at A1.

34. As of December 1997, \$26 million has been spent to investigate this accident. *TWA crash still a mystery but new rules improves safety*, *supra* note 33.

35. In December, the FAA adopted the NTSB's recommendations and will require airlines to (1) insulate fuel tanks to protect them from excess heat, and (2) add equipment which will flush fumes from fuel tanks. *Id.* See also *FAA expands checks of wiring on 747's*, COLO. SPRINGS GAZETTE, Dec. 13, 1997, at A9.

36. Matthew L. Wald, *Boeing Says Vapor threat Requires a New Fuel Tank*, N.Y. TIMES, Dec. 10, 1997, at A1. See also Matthew L. Wald, *747's Growing Age Cited During Flight 800 Hearing*, N.Y. TIMES, Dec. 12, 1997, at A20.

37. On April 9, 1997, the NTSB published the *Federal Family Assistance Plan for Aviation Disasters*. This plan implements the Aviation Disaster Family Assistance Act of 1996, Pub. L. No. 104-264, Tit. VII, 1997, and Presidential Executive Memorandum, Sept. 9, 1996, Subject: Assistance to Families Affected by Aviation and Other Transportation Disasters. This law was further amended on Dec. 16, 1997, Pub. L. No. 105-148, 1997 (H.R.2476) requiring "the National Transportation Safety Board and individual foreign air carriers to address the needs of families of passengers involved in aircraft accidents involving foreign air carriers."

38. *Buckling Up Key to Riding Out Turbulence*, COLO. SPRINGS GAZETTE, Dec. 30, 1997, at A3.

39. *Delta, American Airlines Plan to Expand Planes' Medical Kits*, COLO. SPRINGS GAZETTE, Jan. 14, 1998, at BUS6.

40. *Woman Sues United After Husband Dies in Flight*, COLO. SPRINGS GAZETTE, Feb. 2, 1998, at A8.

41. *In Wake of Lawsuit, United Will Put Defibrillators On Jets*, COLO. SPRINGS GAZETTE, Feb. 13, 1998.

42. *FAA Mandates "Black box" Upgrades*, COLO. SPRINGS GAZETTE, July 11, 1997, at A11.

43. *Id.*

44. *Airlines Will Install New Radar Devices*, COLO. SPRINGS GAZETTE, Dec. 16, 1997, at A9.

### C. OTHER DEVELOPMENTS

In addition to issues involving airline alliances and safety, there were a number of other important developments. The Kyoto Conference<sup>45</sup> threatened to impose significant emission controls on the aviation industry, but the industry (along with its maritime colleagues), led by the Air Transport Association (ATA), was able to avoid this by including language in the Kyoto Protocol, article 2.2, which states that the parties "... shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization (ICAO) and the International Maritime Organization, respectively."<sup>46</sup> This language shifted responsibility for aircraft environmental issues to ICAO. ICAO is also examining the FAA's categorization of civil air authorities' safety procedures and operations relative to U.S. bilateral agreements (the so-called Category 1, 2, and 3 countries). ICAO could conceivably set its own standards in this regard. Both of these developments, many observers believe, will usher in a new and expanded role for ICAO in the light of an increasingly global aviation industry.

The long-standing deadlock over the amendments of the Montreal Protocol to the Warsaw Convention was broken in January 1997 when the DOT approved on reconsideration, and granted antitrust immunity to, the three intercarrier agreements waiving the liability limitations for the individual carriers.<sup>47</sup> To date, some thirty-eight carriers have become parties to these agreements and approximately seventeen have filed implementing tariffs with the DOT.

Meanwhile, the industry's attempts to liberalize the Warsaw Convention are being tested by a decision of the Second Circuit Court of Appeals in a matter ironically dealing with security and safety issues which featured so prominently in the Gore Report. The ATA has filed an amicus brief in support of El Al's petition for a writ of certiorari before the U.S. Supreme Court. In this case,<sup>48</sup> the Respondent is seeking damages under New York law for alleged emotional harm (with no physical injury) occurring during a routine El Al FAA approved security search in New York at JFK Airport. The district court held that the Warsaw Convention applied and that, according to the Convention, in the absence of "bodily harm," there could be no recovery.<sup>49</sup> The Court of Appeals reversed, holding that the "conduct" was not covered by the Warsaw Convention, and therefore, state law applied.<sup>50</sup> In 1998, while the industry awaits the Supreme Court's decision in this case, it is turning its attention to the modification of the Montreal Protocol's provisions on cargo limitations of liability.

The year 1997 also saw the continued explosive growth of the Internet as a potential distribution channel for aviation services. The ATA recognized this with the formation of the Electronic Marketplace Committee. In this connection, it published recommended practices concerning the Internet. In the process, the ATA recognized the emerging role of Internet service providers as well as the interest of the traditional travel agency in the marketing and distribution of air transportation services via the Internet.

President Clinton signed legislation in March which restored the ten percent tax on domestic tickets, the \$6 tax on international tickets, the tax on domestic air cargo, and the tax on aviation

45. Kyoto Protocol to the United Nations Framework Convention on Climate Change 4, U.N. Doc. FCCC/CP/1997/L.7/ALL.1 (1992) adopted in New York on May 9, 1992.

46. *Id.*

47. DOT OST 97-1-2.

48. *Tseng v. El Al Israel Airlines, Ltd.*, 122 F.3d 99 (2nd Cir. 1997) (Petst. Filed).

49. *Id.*

50. *Id.*

fuel.<sup>51</sup> Other issues included the lawsuit filed by Captain Tammy Blakey against Continental Airlines which alleged failure by management to keep male employees from exposing female employees to pornography,<sup>52</sup> the FAA fines which were levied against Bath and Body Works for improperly packaging colognes for shipment on board FedEx aircraft,<sup>53</sup> and the revelation that airlines suffered a loss of approximately \$3.1 million in 1997 to thieves who stole blank airline tickets.<sup>54</sup>

## II. Space Law Developments

A significant number of important events occurred in 1997, and the U.S. National Aeronautics and Space Administration (NASA) was an important player in most of them.

On November 6, 1996, the United States returned to Mars with NASA's launch of the Mars Global Surveyor. Almost a month later, on December 4th, NASA launched a second Mars mission: Mars Pathfinder.<sup>55</sup> Mars Global Surveyor and Pathfinder are the first missions in a new decade-long program of unmanned exploration which will use small, inexpensive spacecraft and robotic devices to search for evidence of past life on Mars and to improve our knowledge of the Martian geology and climate (present and past).<sup>56</sup> Although pathfinder was launched after Mars Global Surveyor, it arrived first, landing on July 4, 1997. The Sojourner rover, which was part of the Pathfinder mission, was deployed shortly thereafter and began sending pictures of the Martian landscape back to Earth. Global Surveyor arrived in November, was successfully placed in orbit around Mars and began mapping that planet.<sup>57</sup> While Global Surveyor and Mars Pathfinder were en route to Mars, NASA conducted a successful Space Shuttle mission to repair and improve the Hubble Space Telescope.<sup>58</sup> "The new instruments—a spectrograph with two-dimensional detectors and a near-infrared camera—should be 30 to 40 time more efficient and powerful than the old ones, and allow astronomers to peer back into the universe practically to the beginning of time."<sup>59</sup> In October 1997, NASA launched a controversial mission: the Cassini mission to explore Saturn and its moons.<sup>60</sup> Environmental and peace groups attempted to block the launch of the Titan 4-B rocket from Cape Canaveral arguing that it would pose an unreasonable risk to human health because the spacecraft carries seventy-two pounds of plutonium to power operations. However, the U.S. District Court for the District of Hawaii refused to block the launch.<sup>61</sup> Finally, the United States returned to the Moon for the first time in twenty-five years on January 6, 1998, when NASA launched the

51. *Air Fares Likely to Rise With Aviation Taxes*, COLO. SPRINGS GAZETTE, Mar. 1, 1997, at C2.

52. *Airlines Sued Over Cockpit Pornography*, COLO. SPRINGS GAZETTE, Sept. 27, 1997, at A4. Reportedly, this case was settled for \$250,000.

53. *Splashing Cologne Aboard Planes Nets \$750,000 Fine*, COLO. SPRINGS GAZETTE, Dec. 21, 1997, at A16.

54. *Flights On Stolen Tickets Cost Airlines, Agencies Millions*, COLO. SPRINGS GAZETTE, Dec. 16, 1997, at A11.

55. See *Jet Propulsion Laboratory Public Information Office press release* (visited Oct. 16, 1996) <<http://www.jpl.nasa.gov/marsnews/mars96.html>>; and *NASA Mars Pathfinder Project Information*, <<http://www.nssdc.gsfc.nasa.gov/planetary/mesu.html>>.

56. *Id.*

57. *Jet Propulsion Laboratory Public Information Office press release*, (visited Nov. 10, 1997) <<http://www.jpl.nasa.gov/marsnews/mgsnew.html>>.

58. John N. Wilford, *Shuttle Starts Telescope Mission*, N.Y. TIMES, Feb. 12, 1997, at A10; *Spacewalkers Helping Hubble Become Extremely Far-Sighted*, COLO. SPRINGS GAZETTE, Feb. 15, 1997, at A5; "Yellow-Brick Road" Guides Shuttle Back Home; *Mission Accomplished*, COLO. SPRINGS GAZETTE, Feb. 22, 1997, at A4.

59. *Spacewalkers Helping Hubble Become Extremely Far-Sighted*, *supra*, note 58.

60. *Nuclear Questions Cloud Saturn Mission*, COLO. SPRINGS GAZETTE, Oct. 12, 1997, at A13.

61. *Id.*

Lunar Prospector to search for evidence of water, minerals, and useful gases.<sup>62</sup> On March 5, 1998, NASA announced that Prospector had discovered "enough frozen water to support a large permanent human colony."<sup>63</sup> However, the news was not all good for NASA. In February of 1997, a panel chaired by former NASA Administrator, James Beggs, criticized NASA for not doing enough to encourage manned space flight by private concerns.<sup>64</sup>

NASA was not the only entity involved in space that made the news. In February, Intelsat announced that it had decided to postpone its initiative to partially privatize its operations for at least a year.<sup>65</sup> The *New York Times* reported that "opponents began arguing that the yearlong delay was necessary to negotiate key points" and that "[t]he dispute includes issues such as how much of the new Inc. subsidiary (the private corporation Intelsat has proposed) can be owned by Intelsat or by nations that are part of the Intelsat treaty."<sup>66</sup> Also in February, the U.S. Air Force announced its intention to seek funding to develop a space plane.<sup>67</sup> Finally, an article which appeared in *The Denver Post* in February discussed the progress which has been made by U.S. companies to offer satellite imaging to private parties.<sup>68</sup>

Of all developments which occurred in space law in 1997, those surrounding the International Space Station (ISS) are perhaps the most interesting and important. After years of development and numerous program modifications, the first ISS component will finally be launched into space in 1998.<sup>69</sup> All components are supposed to be launched and assembled in space by the year 2005 at a cost to the U.S. of at least \$19 billion.<sup>70</sup> While engineers were working to meet design deadlines, NASA attorneys and their counterparts from countries that are ISS-Partners (Canada, some countries which belong to the European Space Agency, Japan, and Russia) were busy negotiating changes to the agreements which form the legal basis for this program and will be used to determine how operations are conducted. These agreements, which were signed in January of 1998, are important because they address issues that are mission essential but are not necessarily addressed in existing multilateral space law agreements.<sup>71</sup> Lynn F. H. Cline, NASA's Deputy Associate Administrator for External Affairs, and Graham Gibbs, the Canadian Space Agency's Director of Washington Operations, identified five issues that "prompted the most multilateral-multinational debate: (a) management—who's in charge, (b) sharing of common operations costs, (c) criminal jurisdiction, (d) dispute resolutions, and (e) national security

62. *Moon Probe Gets Safely Away on Second Try*, COLO. SPRINGS GAZETTE, Jan. 7, 1998, at A7.

63. *Just Like Moonsbane*, COLO. SPRINGS GAZETTE, Mar. 6, 1998, at A1.

64. *NASA Is Told to Press Commercialization of Space*, N.Y. TIMES, Feb. 8, 1997, at A8.

65. *Intelsat Decides to Postpone Privatization*, N.Y. TIMES, Feb. 14, 1997, at B3.

66. *Id.*

67. Anne Eiscle, *Air Force to Seek Funding for Space Plane*, AIR FORCE TIMES, Feb. 17, 1997, at 32. This article discusses the Air Force-NASA connection:

Air Force development of a reusable space vehicle will benefit from more than \$1 billion that the National Aeronautics and Space Administration has dedicated to three research programs: the X-33 reusable launch vehicle prototype; the X-34 small reusable booster; and the Clipper Graham, or DC-XA, a rapidly reusable vertical-take-off-and-landing rocket.

68. *Id.* William J. Broad, *Spying From Space Takes Off*, DENVER POST, Feb. 10, 1997, at A1.

69. *Long-Delayed Space Station to Begin Taking Shape in '98*, COLO. SPRINGS GAZETTE, Feb. 2, 1998, at A17. The Russian built Functional Cargo Block is supposed to be launched in June from the Baikonur Cosmodrome in Central Asia. In July, the United States will launch its first component, Node-1, using the Space Shuttle.

70. *Id.*; see also *Station's Price Tag is High as the Moon: \$19.4 billion*, COLO. SPRINGS GAZETTE, Feb. 22, 1998, at A17. An independent audit sent to Congress suggests that ISS costs will probably be closer to \$24 billion. *Space Station Cost Escalates*, COLO. SPRINGS GAZETTE, Mar. 3, 1998.

71. NASA and the other Space Station Partners retained the agreements structure that was used before Russia became a Partner: a multinational Intergovernmental Agreement which addresses issues common to all Partners supplements by bilateral agreements on the Internet at <<http://www.nasa.gov/pub/pao/reports>>.

or military use of the Space Station."<sup>72</sup> In accordance with article 5 of the multilateral Intergovernmental Agreement (IGA), each Partner "shall register as space objects" those elements which it provides and "[p]ursuant to Article VIII of the Outer Space Treaty and Article II of the Registration Convention each Partner shall retain jurisdiction and control over the elements it registers . . . and over personnel who are in its nationals."<sup>73</sup> Jurisdiction and control does not include the exclusive right to exercise criminal jurisdiction over every crime which a crew-member can commit. Under article 22 of the revised IGA, a Partner has the right to prosecute another Partner's national, but only if the misconduct "affects the life or safety of a national of another Partner State or . . . occurs in or on or causes damage to the flight element of another Partner State" and the accused's country of nationality either relinquishes jurisdiction or "fails to provide assurances that it will submit the case to its competent authorities for the purpose of prosecution."<sup>74</sup> As a practical matter, the country of nationality may never release its primary right to exercise criminal jurisdiction. However, the new IGA permits it to do so. Finally, the new IGA retains the provision which requires the Partner States to develop a Code of Conduct for the flight crew.<sup>75</sup> Hopefully, no member of the Space Station crew will act in a way which requires the Partners to apply article 22. At the very least, however, the article establishes a precedent for addressing this issue if and when nations cooperate to establish large-scale colonies on the Moon or the planets.

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72. L. F. H. Cline & G. Gibbs, RE-Negotiation of the International Space Station Agreements—1993 to 1997, unpublished paper presented to the 48th International Astronautical Congress, Turin, Italy (Oct. 1997).

73. *International Space Station Intergovernmental Agreement (IGA)* (visited May 17, 1998) <<http://www.nasa.gov/pub/pao/reports/IGA.html>>.

74. IGA, *supra* note 73, art. 22. Compare this provision with the rule which appeared in the agreement it replaced: the *Agreement Among the Government of the United States of America, Government of Member States of the European Space Agency, The Government of Japan, and the Government of Canada on Cooperation in the Detailed Design, Development, Operation, and Utilization of the Permanently Manned Civil Space Station* (Sep. 29, 1988). Under article 22 of that agreement, NASA had the primary right to prosecute "misconduct committed by a non-U.S. national in or on a non-U.S. element of the manned base or attached to the manned base which endangers the safety of the manned base or the crew members thereon," subject to an obligation to "consult with the Partner State whose national is the alleged perpetrator."

75. *Id.* art. 11