

**Update to *FAA Historical Chronology: Civil Aviation and the Federal Government, 1926-1996* (Washington, DC: Federal Aviation Administration, 1998)**

**1997**

January 2, 1997: The Federal Aviation Administration (FAA) issued an airworthiness directive requiring operators to adopt procedures enabling the flight crew to reestablish control of a Boeing 737 experiencing an uncommanded yaw or roll – the phenomenon believed to have brought down USAir Flight 427 at Pittsburgh, Pennsylvania, in 1994. Pilots were told to lower the nose of their aircraft, maximize power, and not attempt to maintain assigned altitudes. (See August 22, 1996; January 15, 1997.)

January 6, 1997: Illinois Governor Jim Edgar and Chicago Mayor Richard Daley announced a compromise under which the city would reopen Meigs Field and operate the airport for five years. After that, Chicago would be free to close the airport.

January 6, 1997: FAA announced the appointment of William Albee as aircraft noise ombudsman, a new position mandated by the Federal Aviation Reauthorization Act of 1996 (Public Law 104-264). (See September 30, 1996.)

January 7, 1997: Dredging resumed in the search for clues in the TWA Flight 800 crash. The operation had been suspended in mid-December 1996. (See July 17, 1996; May 4, 1997.)

January 9, 1997: A Comair Embraer 120 stalled in snowy weather and crashed 18 miles short of Detroit [Michigan] Metropolitan Airport, killing all 29 aboard. (See May 12, 1997; August 27, 1998.)

January 14, 1997: In a conference sponsored by the White House Commission on Aviation Safety and Security and held in Washington, DC, at George Washington University, airline executives called upon the Clinton Administration to privatize key functions of FAA and to install a nonprofit, airline-organized cooperative that would manage security issues. Participants recommended funding these changes with user fees instead of the, then-current, ticket tax. (See July 17, 1996; February 12, 1997.)

January 15, 1997: FAA issued a fact sheet announcing plans for a two-year evaluation, beginning in 1999, of new air traffic management concepts and technologies for application in Alaska and Hawaii. The goal of this Ha-laska free flight demonstration project was to show that existing technologies could support the "free flight" concept. (See April 16, 1998.)

January 15, 1997: As part of the continuing review stemming from the accidents near Colorado Springs (1991) and Pittsburgh (1994), Vice President Al Gore announced FAA would require operators to retrofit existing Boeing 737 rudder control systems with four newly developed components. (See January 2, 1997; March 14, 1997.)

January 15, 1997: FAA praised the Department of Defense for making its global digital terrain elevation database available for civil aviation use, stating that this action would help prevent a danger known as controlled flight into terrain.

January 16, 1997: FAA announced that the new Display Channel Complex Rehost (DCCR) computer system began operations, ten months ahead of schedule, at the Chicago Air Route Traffic Control Center. (See April 1, 1996.)

January 21, 1997: FAA issued an airworthiness directive requiring operators to re-inspect and repair wiring leading to fuel tank booster pumps numbers 1 and 4 in the inboard main fuel tanks of 747 airplanes produced prior to 1980. The inspections had to be completed by May 20, 1997. (See November 26, 1997.)

January 22, 1997: Department of Transportation Inspector General Kenneth Mead issued a report saying that poor cost estimating processes for FAA air traffic control modernization projects resulted in unreliable cost and financial information, increasing the likelihood of poor investment decisions.

January 29, 1997: FAA selected Raytheon to build the Integrated Terminal Weather System (ITWS) and to install and maintain it at 34 sites covering 45 airports. ITWS would combine sensor and radar data from FAA and National Weather Service and present predictions on potentially hazardous weather to air traffic control personnel via easily-understood graphics and text.

January 29, 1997: FAA announced steps to provide the following aviation safety data to the public: beginning February 1, press releases on all new enforcement actions that sought civil penalties of \$50,000 or greater; effective, February 28, an Internet page providing safety information, including some data previously available only through Freedom of Information Act requests, to consumers; and by March 31, addition of a public education portion to the Internet page to help travelers better understand the aviation safety record and safety systems.

January 29, 1997: A federal judge in Colorado selected the auditorium at FAA's Mike Monroney Aeronautical Center to host the families of victims of the Oklahoma City federal building bombing who wanted to watch a close-circuit broadcast of the criminal trials.

February 1, 1997: Barry L. Valentine followed Linda Hall Daschle as acting FAA Administrator, effective at midnight. Monte Belger continued as acting deputy administrator. (See November 9, 1996; December 19, 1997; August 4, 1999.)

February 5, 1997: A series of incidents and developments began involving U.S. Air Force (USAF) and U.S. commercial aircraft. Two USAF F-16 fighter jets reportedly were involved that day in a near midair collision with a Nation's Air Express 727 off the New Jersey coast. *February 7*, an American Eagle pilot reported that four Air Force jet fighters came close to his aircraft off the coast of Maryland; the Air Force temporarily halted all training operations off the East Coast as a precaution; the FAA asked controllers at three air route traffic control centers and the military controllers at the Virginia Capes station to review procedures regarding the military areas off the East Coast. *February 10*, two more, relatively minor, incidents became known and the USAF widened the suspension to include the Gulf of Mexico. *February 11*, the training resumed after the USAF informed pilots on the dangers of close encounters with airliners. *February 19*, the media reported that the USAF had concluded that although the pilot in the Nations Air incident had broken no rules, in the future, its pilots would query controllers before intercepting unknown aircraft detected in flight. *February 26*, the Navy stated that a military controller's failure to follow proper procedures had caused the Nations Air incident.

February 6, 1997: Invision Technologies announced installation of the first two CTX 5000 SP explosives detection systems at Chicago O'Hare and New York Kennedy airports. (See December 23, 1996; February 12, 1997; May 6, 1997.)

February 12, 1997: In compliance with Executive Order 13015, the White House Commission on Aviation Safety and Security (Gore Commission) released its final report to President Clinton. Its recommendations included: reducing the aviation fatal accident rate by a factor of five within ten years, requiring installation of enhanced Ground Proximity Warning Systems on all civil and military passenger aircraft (see November 6, 1996), expanding the aging aircraft program to cover non-structural systems, passing legislation to protect employees who report safety/security violations, ending the exemption of passengers younger than age two from restraint systems, and requiring smoke detectors in the cargo holds of all passenger aircraft. Air traffic control recommendations included: national airspace system (NAS) modernization by 2005, stronger leadership in global positioning system (GPS) implementation, requiring NAS users to fund its development and operation, and identifying the frequency spectrum needed for air traffic control. Security recommendations included: federal funding for a major security improvement, new FAA standards for baggage matching and passenger profile screening, U.S. Post Office examination of all packages over one pound, and a U.S. proposal for the International Civil Aviation Organization (ICAO) to begin verifying international security compliance. The commission also recommended measures designed to improve response to aviation disasters. Responding to the Gore Commission report, FAA and the National Aeronautics and Space Administration (NASA) announced a joint initiative, in partnership with the Department of Defense and industry, to reduce aircraft accident rates five-fold within ten years. (See January 14, 1997; January 15, 1997; February 6, 1997; December 15, 1997.)

February 15, 1997: President Clinton used his powers under the Railway Labor Act to stop a strike by American Airlines pilots a few minutes after it began. An emergency board was established to try to find an acceptable compromise during a 60 day cooling-

off period. *March 19*, American and the Allied Pilots Association stated they had reached a tentative agreement on a new contract. *April 4*, the union's board voted in favor of the contract, which included higher pay than previously offered. *May 5*, union members voted to approve the new five-year contract.

February 17, 1997: Rodney E. Slater became Secretary of Transportation. Outgoing Department Of Transportation Secretary Federico Peña was designated to be Secretary of Energy, but this appointment was not yet confirmed. (See December 20, 1996.)

February 18, 1997: The Jacksonville Air Route Traffic Control Center (ARTCC) became the last of 21 centers to implement the Voice Switching and Control System (VSCS). *May 21*, the FAA formally dedicated this installation. (See June 30, 1995.)

February 19, 1997: FAA and National Weather service launched an experimental aviation digital data service, via the Internet, to provide weather information to the aviation community.

February 21, 1997: FAA and Interior Department announced a delay in implementing aspects of a rule, announced on December 31, 1996, on flights over the Grand Canyon. Most of the rule's provisions would be implemented as planned on May 1, 1997; however, a restructuring of the park airspace and air routes would not be implemented until January 1998. (See May 12, 1997.)

February 27, 1997: Department of Transportation and the Department of Defense announced an agreement to provide a second frequency for its global positioning system (GPS), and guarantee uninterrupted availability of the L2 frequency for civil users in the interim. The development of a second frequency was consistent with a recommendation by the Gore Commission. (See March 29, 1996; March 30, 1998.)

February 28, 1997: President Clinton signed legislation reinstating certain aviation taxes from March 6 through September 30. Included were the 10 percent airline ticket tax, 6.25 percent domestic air freight tax, an international departure tax of \$6 per ticket, and excise charges on non-commercial aviation fuel. The law also gave the Treasury Department authority to transfer aviation tax revenue to the Aviation Trust Fund.

February 28, 1997: FAA released an independent 90-day assessment, as mandated by the Federal Aviation Reauthorization Act of 1996 (Public Law 104-264), to assess the scope of its financial needs through 2002. The assessment, performed by the Coopers & Lybrand consulting firm, concluded that the FAA had no system to account for its costs, and that FAA managers generally could not manage money properly. This assessment was similar to other studies that concluded that FAA needed to institute a fundamental change in the way it made decisions, and that those who funded the agency, as well as those who used its services, had to afford it greater flexibility in how it did business. In response, FAA stated that the report showed the need for reform to bridge the gap, over the next six years, between its projected responsibilities and its anticipated resources. (See September 30, 1996.)

March 5, 1997: Department of Transportation Secretary Slater announced that U.S. airlines had recorded a third straight year of strong growth. The announcement followed release of a FAA annual commercial aviation forecast.

March 13, 1997: FAA announced that it had installed two new systems, the telecommunications processor and the interim situation display, at the New York and Oakland Air Route Traffic Control Centers (ARTCC). These installations would benefit flights over the Pacific and Caribbean.

March 14, 1997: FAA formally accepted, ahead of schedule, the Display System Replacement (DSR) system. (See April 27, 1995; January 20, 1999.)

March 14, 1997: FAA published two proposed airworthiness directives requiring retrofit of Boeing 737 rudder components. (See January 15, 1997; January 13, 1999.)

March 19, 1997: FAA published a rulemaking proposal to update and clarify regulations regarding the licensing of commercial space launches. (See November 15, 1995; May 22, 1997.)

March 20, 1997: FAA published an interim final rule establishing fees, effective May 19, 1997, for providing air traffic and related services to aircraft that overfly the United States but do not land or takeoff from U.S. territory. (See May 19, 1997.)

March 21, 1997: FAA announced that, with 33 of 39 commuter air carriers now in compliance, the aviation industry had successfully implemented the commuter rule. Adopted by the government in December 1995, this rule required airlines operating aircraft with 10 to 30 seats to meet the same, or equivalent, safety standards as the major airlines. (See December 14, 1995.)

March 27, 1997: Although a section of a wing flap fell off of Delta Boeing 767 near Dallas, the plane landed with no passenger or crew injuries. *April 2*, FAA ordered inspections of flaps for all 767s with at least 25,000 hours or 10,000 flights.

March 27, 1997: FAA initiated phase 1 of Reduced Vertical Separation Minima (RVSM) procedures in the North Atlantic. Reducing separation from 2,000 to 1,000 had huge implications for capacity and fuel efficiency in oceanic operations. This was the first reduction of separation over the Atlantic in 40 years. (See April 9, 1997.)

April 1, 1997: A groundbreaking ceremony for the world's first full-scale airport pavement test facility took place at the FAA William J. Hughes Technical Center. FAA and Boeing partnered to create the facility. (See May 20, 1996; April 12, 1999.)

April 3, 1997: Unofficial reports began circulating that the Clinton Administration would nominate Acting Highway Administrator Jane Garvey for the post of FAA Administrator and George Donohue, currently FAA associate administrator for research and acquisitions, as her deputy. (See June 11, 1997.)

April 5, 1997: The new Washington National air traffic control tower began operating. Rising 201 feet, the state-of-the-art facility was 114 feet taller than the tower that had been in use since the airport's opening in 1941. Department of Transportation Secretary Slater dedicated the new tower on May 12, 1997.

April 7, 1997: In response to North Korea's opening of its airspace to routine international flights, the U.S. government lifted its prohibition on paying overflight fees to North Korea. *April 24* the FAA cited such factors as North Korea's military rules of engagement as justification, however, for publishing a special federal aviation regulation (SFAR) prohibiting certain U.S. flights in the area.

April 9, 1997: FAA established requirements, effective this date, affecting the operations of U.S.-registered aircraft in designated Reduced Vertical Separation Minima (RVSM) airspace. This designation referred to airspace between flight level (FL) 290 and FL 410 – in which a minimum of 1,000 feet separation, rather than the 2,000 foot minimum separation generally required above FL 290, was to be maintained between aircraft. These regulations required operators and their aircraft to be properly qualified and equipped – as well as to obtain approvals certifying these conditions – to conduct flight operations while separated by 1,000 feet. RVSM was to be applied only in designated areas, and the first such area was to include certain flight levels in the North Atlantic minimum navigation performance specifications airspace. (See March 27, 1997; February 24, 2000.)

April 15, 1997: The tail of a German-made BK-117 helicopter reportedly broke off in flight, causing the aircraft to crash into New York's East river, killing one occupant and injuring two. *April 25*, FAA issued an airworthiness directive requiring operators of certain models of helicopters manufactured by Eurocopter Deutschland GmbH to inspect the tail booms for cracks before the craft would be permitted to fly. *April 26*, FAA grounded all 132 of the BK-117s in the United States pending checks for cracks in certain key components.

April 22, 1997: FAA published a proposal to accept applications, beginning December 1, for participation in an airport privatization pilot program established by the Federal Aviation Reauthorization Act of 1996 (Public Law 104-264).

April 23, 1997: FAA issued an airworthiness directive requiring visual inspections to detect stress and replace any faulty ball bearings in GE90 engines on five Boeing 777s. The directive followed ball bearing failures on two British 777s.

April 24, 1997: FAA unveiled its inflight aircraft icing plan, based on recommendations from international experts. The plan was the final phase of a three-phase program that FAA had announced in 1994. (See October 31, 1994.)

April 28, 1997: FAA selected Hughes Information Technology Systems, a unit of Hughes Aircraft Company, as its integration-services contractor to support the National Airspace

System Infrastructure Management System (NIMS) program. The contract was estimated to be worth \$100 million over seven years. (See June 15, 1998.)

May 2, 1997: FAA announced the \$12.2 million purchase of additional trace detection security equipment for use at the nation's busiest airports. (See February 12, 1997; September 25, 1998.)

May 4, 1997: FBI Director Louis Freeh announced that the evidence in the TWA Flight 800 crash pointed to mechanical failure and emphasized the need to bring the investigation to a close. (See January 7, 1997; December 8, 1997.)

May 6, 1997: Airlines began a two-week test of matching bags with passengers at selected airports nationwide. (See February 6, 1997; February 12, 1997; May 17, 1997.)

May 12, 1997: FAA announced its selection of the FAA/NASA Joint University Program for Air Transportation to receive the first Excellence in Aviation Research award.

May 12, 1997: FAA proposed an airworthiness directive requiring ice detector systems on Embraer 120 aircraft. (See January 9, 1997.)

May 12, 1997: FAA proposed converting two flight-free zones over the Grand Canyon into new flight corridors. The agency stated that one of these was to be an "incentive corridor" for quieter aircraft, and the other was intended to address Native American concerns by preventing overflights of their cultural properties and sacred sites. (See February 21, 1997; May 19, 1997.)

May 14, 1997: FAA awarded a contract worth up to \$250 million for computer support services to the Department of Agriculture's National Information Technology Center. The center would establish the Integrated Computing Environment - Mainframe and Networking (ICE-MAN) system, a follow-on to the computer resource nucleus contract. *May 20*, due to questions raised by industry about this controversial government-to-government award, the FAA associate administrator for research and acquisitions suspended work on the ICE-MAN contract. FAA's ICE-MAN acquisition team and Office of Management and Budget (OMB) officials reviewed the original contract, and determined that the program met OMB's A-76 guidelines. *June 10*, FAA lifted the suspension on the contract and formally announced resumption on June 20, 1997. Agriculture delayed resumption of work until the deadline for appeals had passed.

May 14, 1997: FAA issued an airworthiness directive requiring operators to check an engine fire switch override button on Boeing 777s.

May 14, 1997: The Air Transport Association stated that its members would begin installing fire suppression systems in cargo holds of passenger planes. The first of these might be installed in the last quarter of 1997, and the program would take five years to complete its work. FAA reportedly proposed to require the action within three years. (See November 14, 1996; June 10, 1997.)

May 17, 1997: As part of the aircraft hardening program, FAA and British aviation authorities set off four simultaneous explosions in the cargo hold of an old Boeing 747 at Leicester, England. (See May 6, 1997; May 4, 1998.)

May 19, 1997: Under an interim final rule, FAA began collecting fees for overflight services, as scheduled – having, on the previous Friday, turned down requests from the International Air Transportation Association and the Air Transportation Association of Canada for a 90 day delay. A U.S. Court of Appeals decision in January 1998 determined that FAA's calculation of fees was inconsistent with the statute and prohibited the collection of the fees. (See March 20, 1997; June 5, 2000.)

May 19, 1997: Department of Transportation and Interior Department established a National Park Overflights Working Group to develop a plan to ensure preservation of natural quiet in the parks. The group would exist for 100 days after the date of its initial meeting, scheduled for May 20-21, 1997. Its membership included representatives of the aviation industry, parks, and conservation groups. (See May 12, 1997.)

May 21, 1997: To allow commercial airlines to benefit from technological improvements, FAA published a rule permitting commercial aircraft to activate their autopilot at less than 500 feet above ground level during takeoff and climb. Such actions, however, would have to be authorized by the FAA Administrator and would have to be performed as required in the performing carrier's operating specifications.

May 22, 1997: FAA issued its second privately-operated spaceport license to Spaceport Florida for the Cape Canaveral Spaceport. (See March 19, 1997; December 19, 1997.)

May 28, 1997: The National Civil Aviation Review Commission, lead by Norman Mineta, held the first of two public hearings regarding the financing of certain FAA services. Seventeen organizations testified. *September 25*, the commission made its "Preliminary Finance Report" available to the public. *October 28*, a second, and final, public hearing was held. *December 11*, Mineta issued the commission's final report, "Avoiding Aviation Gridlock and Reducing the Accident Rate: A Consensus for Change," which noted that airline passengers were doomed to massive airport congestion and more dangerous skies unless FAA received a radical overhaul. The 21-member panel called on lawmakers and the White House to improve FAA management and finances. It urged a partial privatization of the agency and steps to shield aviation regulation from partisan budget battles. The proposed reforms would let the FAA beef up funding for the air traffic control system and airports to accommodate a rise in air traffic. (See September 30, 1996.)

May 28, 1997: FAA sent a letter to Raytheon indicating its concern about delays in the Standard Terminal Automation Replacement System (STARS) project. FAA proposed to elevate STARS software development to high risk status because of delays in meeting project milestones. (See September 16, 1996; September 11, 1997.)



May 30, 1997: FAA grounded the MD-900 Explorer helicopter until further notice following the discovery of a broken adjustable collective drive link during a McDonnell-Douglas post-flight inspection on May 8.

May 30, 1997: FAA selected the firm of Booz-Allen & Hamilton to perform a congressionally-mandated review of the agency's new acquisition system.

June 10, 1997: FAA issued a notice of proposed rulemaking (NPRM) that would require the installation of fire detection and suppression systems in the sealed cargo holds of all commercial aircraft. The airline industry would have three years from the time the rule became final to meet the new standards. According to the agency, the new rule would affect approximately 3,000 passenger aircraft and another 300 cargo planes. Most long-range passenger aircraft, such as the new Boeing 777 jetliners, already met the new standard. (See May 14, 1997; February 12, 1998.)

June 11, 1997: President Clinton announced his intention to nominate Jane Garvey as FAA Administrator and George Donohue as her deputy. (See April 3, 1997; July 31, 1997; February 9, 1998.)

July 1, 1997: The National Transportation Safety Board (NTSB), reporting on a commuter plane collision in which most passengers survived the impact but died in a subsequent fire, recommended that FAA find ways to fund fire and rescue protection at small airports served by small planes. NTSB said the collision of a United Express Beechcraft 1900 with a private twin-engine Beechcraft King Air at Quincy, Illinois, on November 19 took place because the pilots of the King Air failed to monitor properly a common radio frequency on which the United Express pilot repeatedly reported her position and intention to land. Although finding the King Air crew primarily responsible, NTSB presented a list of other safety issues, including a radio transmission by a novice pilot that probably confused the United Express crew, the inability of surviving passengers to open jammed emergency exits, and a lack of fire and rescue capability at Quincy.

July 3, 1997: The Federal Trade Commission decided not to block the merger between the Boeing Company and McDonnell Douglas Corporation. The newly strengthened Boeing would control two-thirds of the world's airplane market. *August 1*, the two companies formally merged. (See December 15, 1996.)

July 19, 1997: A Cessna 172 and Beech Bonanza mid-air collision near Chicago's Meigs field killed all seven onboard the two aircraft. The accident resulted in a safety review of FAA's contract tower program.

July 31, 1997: The U.S. Senate confirmed Jane Garvey as FAA Administrator. *August 4*, Garvey was sworn in as the 14<sup>th</sup> FAA Administrator, the first to be appointed to a five-year term. (See June 11, 1997.)

August 6, 1997: A South Korean Boeing 747 jetliner crashed in rugged jungle terrain while attempting to make an early-morning landing on the South Pacific island of Guam, killing more than 200 people. At least 35 of those aboard survived the fiery crash. The crash occurred as Korean Air Flight 801 approached Won Pat International Airport in darkness and heavy rain with 254 passengers and crew aboard.

August 7, 1997: FineAir Flight 101, a DC-8, crashed on takeoff from Miami after improperly secured cargo slid. The excess weight in the rear portion of the aircraft caused a severe aft center of gravity condition, rendering the crew unable to lower the aircraft's nose. The airplane stalled, crashed into a field, and slid across busy 72nd Avenue into a strip-mall parking lot.

August 14, 1997: The Eighth U.S. Circuit Court of Appeals in St. Louis dismissed a standing protest by Wilcox Electric against FAA for having awarded the then-\$500 million Wide Area Augmentation System (WAAS) contract to Hughes. FAA had terminated the Wilcox contract on April 26, 1996, claiming Wilcox, the original prime contractor, had failed to live up to provisions of the contract. FAA subsequently awarded Hughes Aircraft a sole-source award for WAAS development. (See March 29, 1996; September 23, 1997.)

August 18, 1997: A final rule requiring that digital flight data recorders (black box) collect more information went into effect. The number of specific areas of flight information, called data parameters, increased to 88 for newly manufactured aircraft and increased from 11 to 17 or 18 for older aircraft. (See July 16, 1996; May 3, 1999.)

August 19, 1997: The National Transportation Safety Board (NTSB) ruled that all parties, including FAA, executive boardrooms, and the "shop room floor," shared some culpability for the crash of ValuJet Flight 592. The aircraft probably would not have crashed into the Florida Everglades on May 11, 1996, if FAA had followed a decade-old recommendation to require fire detection and suppression systems in aircraft cargo holds. NTSB also listed as "probable causes" the failure of the maintenance contractor SabreTech to properly "prepare, package, identify and track" hazardous oxygen generators that were improperly placed in the cargo hold, and ValuJet's failure to oversee SabreTech. In addition, NTSB said FAA's failure to adequately monitor ValuJet's maintenance program and its maintenance contractors, the failure to respond adequately to prior oxygen generator fires, and the airline's failure to train its employees about handling hazardous material also contributed to the causes of the tragedy. (See May 11, 1996.)

August 25, 1997: FAA awarded Harris Corporation a contract to replace the current system by which flight service stations provide crucial information such as emergency assistance and weather briefings to pilots. Under the Operational and Supportability Implementation System (OASIS) program contract – valued at more than \$110 million, including options – Harris would provide flight planning and weather information to general aviation pilots nationwide. FAA planned to modernize up to 61 flight service stations over the next ten years. (See July 1, 2002.)

September 11, 1997: Representative Connie Morella, chair of the House Science Subcommittee on Technology, met with the administrator to discuss installing the Standard Terminal Automation Replacement System (STARS) in the Washington National terminal radar control (TRACON) facility. FAA committed to making a decision in four to six weeks on whether it would be possible to deploy an interim solution at a selected few major terminal facilities, like National, that would provide STARS hardware operating in tandem with existing software. This would provide controllers an improved operational capability, including color displays, until the STARS software was ready to meet mission requirements. The schedule called for STARS to be ready for initial operation at National in September 2000. (See May 28, 1997; October 30, 1997.)

September 22, 1997: Bombardier Aerospace announced that FAA had granted final certification of Learjet's pioneering Model 45, the world's first business jet designed and manufactured entirely by computer. The aircraft was Learjet's first all-new jet in 30 years and its third aircraft to be certified since the company was acquired by Bombardier Inc., in 1990.

September 23, 1997: FAA sponsored a demonstration flight into Tijuana International Airport showing the benefits of the Wide Area Augmentation System. The agency called this the first big step toward establishing a seamless air navigation system across North America. (See August 14, 1997; October 1, 1997.)

September 23, 1997: FAA announced the selection of a team of universities to serve as the FAA Center of Excellence for Airworthiness Assurance.

October 1, 1997: Testifying before the U.S. House of Representatives Subcommittee on Aviation, Committee on Transportation and Infrastructure, Department of Transportation Inspector General Kenneth Mead criticized FAA management of the Wide Area Augmentation System (WAAS) program. He stated, "We found that FAA did not use a consistent method for cost estimating. An April 1994 cost benefit analysis for WAAS reflected an estimated total life-cycle cost through the year 2014 at \$1.4 billion. Program documentation in July 1997, reflects an estimate of total life-cycle costs for WAAS, through the year 2016, at over \$2.4 billion. Our analysis of this showed that FAA has been slow to fully recognize all life-cycle costs of systems . . . In our opinion, FAA's efforts to include life-cycle cost estimates for all satellite related systems and supporting activities will establish an understanding of the financial requirements and greatly facilitate decision making. Once established, these projected life-cycle costs should be integrated into FAA's plan to ensure effective transition to the new technologies." (See September 23, 1997; October 20-22, 1997.)

October 1, 1997: FAA implemented a new cost accounting system, with research and acquisitions personnel at Washington, DC, headquarters serving as a pilot for the system. The labor distribution module of the system was a key component of the effort.

October 6, 1997: The FAA commissioned the first precision runway monitor at Minneapolis/St. Paul International Airport. The system permits simultaneous independent

instrument landing system (ILS) approaches to parallel runways spaced less than 4,300 feet apart.

October 14, 1997: John Denver, a licensed pilot who had a home near Monterey, California, was killed when his fiberglass plane crashed about 100 yards offshore shortly after having taken off at Monterey Airport.

October 20-22, 1997: FAA and Italy's Ente Nazionale Di Assistenza Al Volo conducted flights at Ciampino Airport near Rome to test the capabilities of the Wide Area Augmentation System to function in European airspace. A FAA Boeing 727 used signals from both the U.S. national Satellite Test Bed and Italy's Mediterranean Test Bed to complete the test flights. (See October 1, 1997; October 15, 1998.)

October 22, 1997: FAA began collecting fees, effective this date, for the production of certification-related services pertaining to aeronautical products manufactured or assembled outside the United States.

October 29, 1997: The Task Force on Assistance to Families of Aviation Disasters, co-chaired by Secretary of Transportation Rodney Slater and NTSB Chairman James Hall, issued 61 recommendations to ensure that the families of the victims of aviation disasters receive prompt and compassionate assistance.

October 30, 1997: National Air Traffic Controllers Association (NATCA) President Michael McNally told the U.S. House of Representatives Subcommittee on Aviation, Committee on Transportation and Infrastructure that "NATCA has made it very clear to FAA that there are problems with the Standard Terminal Automation Replacement System (STARS) that must be rectified before it can be a workable product within the terminal environment." At the urging of Representative Frank Wolf (R-VA), the FAA agreed to bring in MITRE and work with the Department of Transportation Inspector General in an attempt to resolve the dispute with NATCA over STARS. Wolf asked the FAA to report by December 15 on progress in resolving cost, delay, and human factors issues. (See September 11, 1997; April 26, 1999.)

November 20, 1997: FAA awarded a four-year contract to Lockheed Martin with a potential value of up to \$1 billion, to modernize the air traffic control system. The initial four-year National Airspace System Implementation Support contract (NISC II) contract was worth approximately \$350 million with as many as three two-year extension options. Under the terms of the NISC II contract, Lockheed Martin would supply engineering, planning, automation, environmental analysis, and other services to the FAA.

November 26, 1997: FAA proposed two airworthiness directives asking airlines to find and fix potential ignition sources in or near the central fuel tanks of Boeing 747 aircraft. (See January 21, 1997; December 12, 1997.)

November 27, 1997: Department of Transportation Inspector General Kenneth Mead issued a report in which he stated that some FAA inspectors assigned to check airplane

maintenance and electrical systems have not been trained. Mead found some employees took no training courses before they joined the agency or after they were hired. And workers who had been trained may not have taken additional courses to learn about changes in the systems they were inspecting.

December 8, 1997: The National Transportation Safety Board began hearings on TWA Flight 800 in Baltimore, Maryland. (See May 4, 1997.)

December 12, 1997: FAA issued an airworthiness directive expanding the inspection and replacement of the Teflon wire coating used in the stainless steel wire conduits on Boeing 747 fuel boost pumps and the pumps used in jettisoning fuel. The AD immediately superseded the December 23, 1996, AD requiring inspections and replacements for Boeing 747 airplanes that used aluminum conduits. (See November 26, 1997; December 19, 1997.)

December 15, 1997: FAA and the Air Transport Association announced a new partnership to eliminate controlled flight into terrain (CFIT). Air Transportation Association member airlines would voluntarily equip 4,300 of their aircraft with advanced terrain awareness warning systems, such as the enhanced ground proximity warning system. Installation of the system was expected to be substantially complete during 2003. (See February 12, 1997; March 29, 2000.)

December 16, 1997: President Clinton signed into law the Foreign Air Carrier Family Support Act requiring foreign carriers to file a plan by June 15, 1998, addressing the needs of families of victims of an aviation disaster in the United States.

December 19, 1997: Top FAA and National Transportation Safety Board officials, often at odds over aviation safety issues, agreed to move forward aggressively with plans to make Boeing 747 fuel tanks safer. The agreement between FAA Administrator Jane Garvey and NTSB Chairman Jim Hall followed board hearings on the crash of Trans World Airlines Flight 800 off the coast of Long Island on July 17, 1996, which killed 230 people. Investigators determined that the plane's center fuel tank exploded and split the plane apart, but did not yet know what sparked the explosion. (See December 12, 1997; April 7, 1998.)

December 19, 1997: Barry Valentine stepped down as FAA deputy administrator (acting) and retired from the agency. (See February 1, 1997.)

December 19, 1997: FAA issued a launch site operators license to Virginia Commercial Space Flight Authority to operate a space launch facility at Wallops Island, Virginia. (See May 22, 1997; February 10-11, 1998.)

December 28, 1997: A powerful blast of air turbulence sent a United Airlines jumbo jet with 393 people aboard into a sudden 1,000-foot drop over the Pacific Ocean, killing one passenger and injuring 110 others. The Boeing 747 (United Flight 826) was about 1,100 miles east of Japan after leaving Tokyo for Honolulu when it encountered the turbulence.

December 31, 1997: During Calendar Year 1997 public agencies collected \$1.2 billion in Passenger Facility Charge (PFC) revenue.

## 1998

January 8, 1998: FAA ordered immediate visual inspection of the tail sections of 211 late-model Boeing 737s after investigators determined that a crash in Indonesia might have been the result of missing fasteners in the tail. Within the 24 hours prior to issuing this order, the agency had checked horizontal stabilizers on aircraft being built or prepared for delivery at Boeing's Renton, Washington, factory. No major problems were noted, but the inspectors found a loose fastener on one in-service aircraft. All U.S. carriers with 737s manufactured after September 20, 1995, in their fleets were therefore required to inspect the horizontal stabilizer portion of the tail section within 24 hours, or five flight segments, for missing fasteners.

February 6, 1998: President Clinton signed legislation into law renaming Washington National Airport the Ronald Reagan Washington National Airport.

February 9, 1998: George Donohue, FAA associate administrator for research and acquisitions withdrew his nomination to be the FAA deputy administrator and informed Department of Transportation Secretary Rodney Slater that he planned to leave the agency. (See June 11, 1997.)

February 10-11, 1998: FAA held its first Commercial Space Transportation Forecast Conference. (See December 19, 1997; April 21, 1998.)

February 11, 1998: President Clinton signed into law the FAA Research, Engineering, and Development Authorization Act of 1998 (Public Law 105-155). The bill mandated FAA establish a program to fund undergraduate and technical colleges, including Historically Black Colleges and Universities and Hispanic Serving Institutions, to perform research on subjects of relevance to FAA. The legislation also required the agency to assess immediately the extent of the risk to its operations that could be identified up until the year 2000 and to develop contingency plans to reduce or avoid the risk introduced by faulty systems that could not be fully corrected before the target year.

February 12, 1998: Department of Transportation issued a rule mandating that, beginning the upcoming fall, airlines must collect the full names of all passengers traveling on international flights and be prepared to make a passenger manifest available within three hours of a crash. The rule was one of several Department of Transportation actions issued on the first anniversary of the publication of the White House Commission on Aviation Safety and Security report.

February 12, 1998: FAA issued a final rule requiring fire detection and suppression systems in aircraft cargo compartments. (See June 10, 1997; March 19, 2001.)

March 30, 1998: Vice President Al Gore announced that two new civilian global positioning system (GPS) signals would be provided by the U.S. free of charge. The announcement fulfilled a pledge made by the Department of Defense and Department of Transportation in March 1997 to reach a decision on a second civil frequency within a year. (See February 27, 1997; June 3, 1998.)

April 7, 1998: Federal aviation investigators probing the explosion of TWA Flight 800 urged inspections of the wiring in fuel monitoring systems of hundreds of Boeing 747s and possibly other Boeing jets. In a letter to FAA Administrator Jane Garvey, National Transportation Safety Board Chairman Jim Hall noted that his organization had found damaged wiring on the "fuel quantity indication systems" of the crashed aircraft and three other 747s. While not directly linking them with the explosion of Flight 800's fuel tank, the letter described the conditions as "potentially hazardous." Also, sources close to the investigation said the letter was not intended to indicate that the board was any closer to determining the cause of the fuel tank's violent explosion. The problems with the 747 fuel systems had been revealed earlier, and had been discussed at hearings on the crash held the previous year in Baltimore. (See December 19, 1997; May 10, 1998.)

April 14, 1998: The Clinton Administration unveiled its Safer Skies initiative, an aviation safety agenda consistent with one announced earlier by the aviation industry. Designed to reduce the commercial aviation accident rate by 80 percent over the next decade, the initiative included mandatory equipment and training to prevent pilots from flying mechanically fit aircraft into the ground or water. It also contained programs to encourage cabin safety. Safer Skies concentrated FAA resources on the most prevalent causes of aircraft accidents and used special teams of technical experts to identify the leading causes of aviation disasters and recommend safety advances.

April 15, 1998: FAA leased the Atlantic City International Airport to the South Jersey Transportation Authority. FAA and the authority signed a 50-year lease and cooperative agreement transferring 2,000 acres of land, including airport runway and taxiway systems.

April 16, 1998: RTCA's Free Flight Steering Committee recommended that, through a core capability limited deployment process to be undertaken through 2002, FAA should adopt its proposed free flight program to implement six technologies at selected air route air traffic control centers. The technologies included: Traffic Management Advisory (TMA), Passive Final Approach Space Tool (pFAST), User Request Evaluation Tool (URET), Collaborative Decision Making (CDM), Controller-Pilot Datalink Communications (CPDLC), and Surface Movement Advisor (SMA). (See January 15, 1997; September 30, 1999; February 4, 2000; March 30, 2000.)

April 21, 1998: FAA published a final rule on licensing requirements for the launch of expendable vehicles from federal sites. (See February 10-11, 1998; August 26, 1998.)

May 4, 1998: FAA announced plans to introduce computer-based training for security screening personnel at the nation's busiest airports. The training was a module in the

Screeener Proficiency Evaluation and Reporting System (SPEARS) being developed by the agency to select, train, evaluate, and monitor the performance of employees who operated the X-ray screening checkpoints. FAA awarded Safe Passage International an \$11 million contract on this date to install the SPEARS computer-based training workstations and train instructors to use it at up to 60 airports. (See May 17, 1997; August 21, 1998.)

May 10, 1998: FAA ordered all older Boeing 737s temporarily grounded until mechanics inspected high-voltage fuel tank wiring for problems that could cause a fire or explosion. FAA gave airlines seven days to complete the inspections. The action came after United Airlines mechanics found evidence of electrical arcing on wiring removed from another 737. Thomas McSweeney, FAA director of aircraft certification, stated that nearly every one of the first 13 aircraft inspected prior to the order exhibited some level of chafing on the insulation that separated the wiring from the metal conduits carrying the wiring through the fuel tank to fuel pumps. *May 14*, FAA expanded the order to include somewhat newer 737 planes and added a set of wires exempted from the original inspection. In some cases, when mechanics performed inspections of newer planes already in the shop for major repairs, they found chafed high-voltage wires. (See April 7, 1998; July 23, 1998.)

May 13, 1998: FAA unveiled a new, data-driven air carrier inspection program called the Air Transport Oversight System (ATOS) to enable FAA inspectors to spot safety trends and catch problems before they could lead to an incident or accident. (See October 1, 1998.)

May 15, 1998: FAA commissioned the country's 34th Terminal Doppler Weather Radar (TDWR) at Newark International Airport. It also commissioned an airport surveillance radar (ASR-9) there. The ASR-9 replaced the ASR-7 at Newark, providing a clearer picture of weather and aircraft than the older system.

June 2, 1998: The Department of Transportation Inspector General issued a report saying that, despite the fact that adverse weather conditions had caused or contributed to nearly 25 percent of aviation accidents in the last decade, FAA still had failed to provide leadership in aviation weather programs.

June 3, 1998: Department of Transportation Secretary Slater announced the award of a contract to Advanced Management Technologies, Inc., to provide expertise in the adaptation of the global positioning system (GPS) to civil aviation needs. The contract was worth \$27 million over three years, with four one-year options that could bring the full potential contract value up to \$62 million. Under the contract, the company would provide technical engineering and program management support for current and future satellite and satellite augmentation systems for FAA. (See March 30, 1998; January 29, 1999.)

June 5, 1998: FAA ordered the retraining of 10,000 air traffic controllers nationwide. Two specific incidents and a general increase in controller errors nationwide prompted



this action. An April 3 incident had not been revealed to the public, but shortly before the order was released, an Air Canada Airbus A320 jet, taking off from La Guardia, flew directly over a US Airways DC-9 jet as it broke off a landing. The two passenger jets came as close as 20 feet from colliding and the incident was widely reported. The agency ordered mandatory proficiency training for controllers working in airport towers handling takeoffs and landings.

June 5, 1998: Effective on this day, a FAA reorganization took place that:

- Abolished two offices
  - The Office of the Associate Administrator for Administration
  - The Office of Business Information and Consultation
- Established four offices
  - Assistant Administrator for Financial Services/CFO
  - Assistant Administrator for Financial Services/Director of Budget
  - Assistant Administrator for Human Resource Management
  - Assistant Administrator for Region/Center Operations
- Moved two offices
  - Office of Flight Oversight became Flight Standards Service under the Office of the Administrator for Regulation and Certification
  - Moved the Washington Flight Program Office (Hangar Six) became the Aviation Systems Standards Office within the Airway Facilities organization
- Transferred the duties of two offices
  - The duties of the Freedom of Information Act Office were assumed within the Office of the Assistant Administrator for Region/Center Operations
  - The duties of the Headquarters Facilities Management Office were assumed within the Office of Acquisitions under the Associate Administrator for Research and Acquisitions

June 15, 1998: Department of Transportation Secretary Slater and National Air Traffic Controllers Association President Michael McNally announced a new labor agreement between FAA and NATCA. *September 9*, NATCA members voted to approve the new contract. *August 28*, FAA and NATCA formally signed the new five-year pact in which a federal labor union negotiated wages, for the first time, with a government agency. (See January 7, 2003.)

June 15, 1998: FAA completed construction of NAS infrastructure management System (NIMS) facility located in Reston, Virginia. The facility was used to evaluate human factors, validate various commercial-off-the-shelf products and interfaces that comprise NIMS, and to develop, verify, and refine initial operational procedures. (See April 28, 1997.)

June 16, 1998: The National Transportation Safety Board reported that the probable cause of the crash of Fine Air Flight 101 onto a Miami street the previous summer was a combination of the actions of an inexperienced crew and the effects of an improperly loaded cargo. Federal investigators said that both the airline and FAA shared

responsibility for failing to correct numerous safety problems. NTSB further chose this crash to address broader problems in FAA oversight of all airlines, drawing parallels to the 1996 fatal crash, also attributed to hazardous cargo, of a ValuJet DC-9. Several NTSB members suggested FAA should clean house at its flight standards office in Miami, the headquarters for five major all-cargo companies. NTSB's official report on the cargo crash said the Miami office knew of deficiencies in Fine Air's operations, but did not correct them.

June 17, 1998: FAA unveiled a step in its congressionally authorized personnel reform efforts – a test of a new compensation plan for about 1,200 agency employees. The new plan replaced the traditional grade and step base pay method with a structure of pay bands whose value was determined by comparison with similar jobs in government and private industry. The program linked compensation with performance. (See April 1, 1996.)

June 1998: FAA established a formal safety risk management policy through Order 8040.4. The new policy provided for a formal, but flexible, approach for managing safety risks associated with high consequence decisions.

July 23, 1998: FAA proposed new measures to reduce potential ignition sources in Boeing 747 center wing tanks. The proposed airworthiness would require operators of Boeing 747 aircraft registered in the U.S. to take the following actions:

- Inspect the center fuel tank to detect damage, disbonding or incorrect installation of wiring and components.
- Test to ensure the electrical bonding of center fuel tank components to the aircraft's structure is within limits, reworking it if necessary.
- On certain 747s, measure the insulation resistance of the fuel quantity indication system (FQIS) to ensure that it is within limits. Also on certain aircraft, operators would have to replace FQIS components with new hardware, and replace silver-plated FQIS wires with new nickel-plated wiring.
- In certain airplanes, install a flame arrestor into the inlet line of the scavenge pumps of the center fuel tank.

Under the proposed rule, replacement of the FQIS components and wiring would have to be done within 24 months, or 20 years from the date the plane was built, whichever would be later. All other actions would have to be accomplished within 24 months. The rule would require operators to report inspection results to Boeing within ten days. (See May 10, 1998; August 11, 1998.)

July 1998: FAA's new Sexual Harassment Accountability Board began operations. The Board had responsibility for providing timely response to complaints while making senior officials accountable for their workplace environments. (See July 2000.)

August 11, 1998: The National Transportation Safety Board urged mandatory inspections of the fuel-pump control shaft on about one-third of all commercial jet aircraft engines – including those in most Boeing 727s and 737s and McDonnell Douglas DC-9s and MD-

80s. Several incidents – including one on September 6, 1997, in which a Boeing 737 was destroyed on takeoff from Najran, Saudi Arabia, as well as a Delta Airlines in-flight problem – prompted the letter from NTSB Chairman Jim Hall to FAA Administrator Jane Garvey. In the Saudia incident, the crew noticed a control panel light indicating that the right engine's exhaust was dangerously hot. When the pilot tried to throttle back, the engine remained at a high power level, the board said. (See July 23, 1998; September 21, 1998.)

August 21, 1998: Law enforcement and transportation officials in the U.S. capital adopted tighter security measures, stepping up patrols at tourist attractions, at federal buildings and in the 95-mile subway system. Military installations across the region also increased security, causing backups at some bases as military police conducted stricter-than-normal identification checks at gates. FAA announced that officers and bomb-sniffing dogs would conduct more sweeps at U.S. airports and increase scrutiny of passengers. Security personnel were instructed to use hand-held devices to randomly screen passengers for traces of explosives. The District of Columbia Metropolitan Police Department, the U.S. Park Police, and the U.S. Capitol Police all increased patrols in key areas of the District and ordered officers to be more aware of their surroundings. The agencies declined to say how many more officers were on patrol. (See May 4, 1998; September 25, 1998.)

August 21, 1998: FAA issued a NPRM that would ban, in certain air carrier operations, the transportation of devices designed to generate oxygen chemically. This ban would include older devices that have been charged and discharged as well as newly manufactured devices that have yet to be charged. (See December 30, 1996.)

August 26, 1998: FAA published a final rule in the *Federal Register* implementing financial responsibility and insurance coverage requirements for space launch activities it regulated. This action codified practices required under the Federal Government's commercial space launch licensing procedures. The new regulations required a launch licensee to obtain insurance or otherwise to demonstrate financial responsibility to protect itself, the customer, the U.S. Government, and contractors and subcontractors of against claims for third-party losses and federal property damage resulting from the licensed launch activities. The agency would set insurance requirements according to a risk-based determination of the maximum probable loss that might result from the licensed activities. Launch participants, whether from industry or government, were required to enter into reciprocal waivers of claims in which each party agreed to absorb certain losses it might sustain as a result of the licensed activity. In addition, subject to the funds being appropriated, the U.S. Government agreed to pay successful third-party claims in excess of the required insurance, up to \$1.5 billion s adjusted for inflation. The final rule was effective 60 days after publication in the *Federal Register* to allow those subject to the rule to change existing practices covered by it, although the rule did not substantially change those practices previously carried out through license orders. (See April 21, 1998; September 8, 1998.)

August 27, 1998: The National Transportation Safety Board attributed the deaths of 29 people killed in a Comair commuter plane crash in a field near Detroit in the winter of 1997 to FAA's failure to heed decades of information about the effect of icing on aircraft performance. NTSB also said that Comair and its pilots contributed to the crash, and that the crew must share some responsibility for operating in poor weather conditions at a speed too low to provide a margin of safety. (See January 9, 1997.)

September 2, 1998: A Swissair jumbo jet en route from John F. Kennedy International Airport in New York to Geneva with 228 people on board crashed off the southern coast of Nova Scotia late at night while trying to make an emergency landing. Canadian aviation officials said the three-engine McDonnell Douglas MD-11 had been diverted to Halifax International Airport, which lies about ten miles to the north of the Nova Scotian capital, after its flight crew reported smoke in the cockpit or passenger cabin about two hours after take-off. (See November 12, 1998.)

September 8, 1998: The 100th commercial space launch licensed by the U.S. took off from Vandenberg Air Force Base. (See August 26, 1998; September 24, 1998.)

September 24, 1998: FAA issued a space launch site operator's license to the Alaska Aerospace Development Corp. The license allowed commercial rocket launches on the southern tip of Kodiak Island. Alaska joined California, Florida, and Virginia as states with FAA-licensed state or commercially operated space launch facilities. It was, however, the first spaceport not co-located with a federally operated launch range. FAA earlier issued commercial space launch site licenses for the operation of spaceports on leased property at Vandenberg Air Force Base, California; Cape Canaveral Air Station, Florida; and at NASA's Wallops Flight Facility, Wallops Island, Virginia. (See September 8, 1998; March 15, 1999.)

September 24, 1998: FAA awarded a \$14.2 million dollar contract to Northrop Grumman Corporation to develop equipment that would provide warnings to air traffic controllers and pilots of hazardous wind shear and microburst events. Called the Weather Systems Processor (WSP), it would forecast the arrival of wind gust fronts and tracks storm motion, providing a complete picture of current and projected hazardous weather conditions which might impact runway and airport usage. Intended be used in conjunction with Airport Surveillance Radar Model-9, WSP would be a low cost detection system suitable for installation at medium and high air traffic density airports. Its functional capability would be similar to that provided by Terminal Doppler Weather Radar, a legacy system which FAA was then deploying at 45 major airports subject to heavy thunderstorm activity. (See April 25, 2001.)

September 25, 1998: FAA announced the implementation of a final rule requiring employment background investigations and criminal history checks for airport security checkpoint screeners and screener supervisors. This new rule responded to the mandate in the Federal Aviation Reauthorization Act of 1996 and was additionally recommended by the White House Commission on Aviation Safety and Security. The rule also required

airport operators and air carriers to audit employment history investigations. (See August 21, 1998; November 20, 1998.)

September 28, 1998: FAA ordered airlines to inspect, within 60 days, fuel boost pump wiring on Boeing 737-100 through -500 series aircraft with 20,000 to 30,000 flight hours. The directive also required the addition of a layer of Teflon sleeving to protect the fuel pump wires. (See August 21, 1998; October 1, 1998.)

September 30, 1998: FAA announced a \$932,613 contract to Sensis Corporation, to develop an identification system for transponder-equipped aircraft operating on airport taxiways and runways. The airport target identification system would give airport controllers detailed information about aircraft and vehicles operating on the ground, including position, speed, and aircraft identification.

October 1, 1998: FAA, which had launched its original aging aircraft program after an Aloha jetliner lost a chunk of its roof in 1988, announced a companion program, the aging transport non-structural systems plan, to help ensure that aircraft systems, such as those for wiring and fuel, did not fail as they grew older. The program, which grew out of the investigation of the in-flight explosion of Trans World Airlines Flight 800 that killed 230 people in 1996, included stepped-up inspections of wiring, a long-term research program, and a model-by-model assessment of each aircraft type together with other items. (See October 28, 1991; September 28, 1998; December 3, 1998; August 16, 2001.)

October 1, 1998: FAA implemented the Air Transport Oversight System, an air carrier oversight process that advocated a systems approach to FAA certification and surveillance oversight. The new process would combine system safety techniques with risk management principles to ensure that air carriers had built safety considerations into their operating systems. (See May 13, 1998; April 8, 2002.)

October 8, 1998: FAA, with assistance from the Helicopter Safety Advisory Conference (HSAC), implemented the world's first Instrument Flight Rules (IFR) Grid System in the Gulf of Mexico. FAA designed this navigational route structure, completely independent of ground-based navigation aids (NAVAIDs), to facilitate helicopter IFR operations to offshore destinations. The Grid System was defined by over 300 offshore waypoints located 20 minutes apart (latitude and longitude). These waypoints have five-letter identifiers systematically based so that operators and controllers can visualize the relative location. To simplify flight planning inflight data input and navigation, these waypoints were integrated into the computer database within the GPS receivers. Both flight crews and controllers used the grid system, which assisted them by: allowing for more direct routing; reducing the manual workload that controllers performed to provide separation from other helicopters; and reducing delays.

October 9, 1998: FAA Administrator Jane Garvey and NASA Administrator Daniel Goldin signed an agreement that established a new partnership in pursuit of improved aviation safety, airspace system efficiency, and aircraft environmental concerns. The agreement created an executive board comprised of senior managers from both agencies

who would monitor progress and ensure that complementary aviation and commercial space transportation goals were achieved through a coordinated planning effort.

October 14, 1998: FAA announced that within six months it would develop a new test specification for aircraft insulation that would contribute to increased fire safety. When available for use, this new test standard would be required for use in the manufacture of all applicable aircraft. The Civil Aviation Administration of China in 1996 strongly recommended new tests after a Chinese Eastern MD-11 fire in Beijing in 1995. (See August 11, 1999.)

October 15, 1998: A FAA Boeing 727 receiving signals from both U.S. and European satellite navigation networks performed successful flight tests at Iceland's Keflavik Airport. The aircraft performed a series of category I precision approaches to the runway using onboard equipment that received signals from the FAA national satellite test bed, a forerunner to WAAS, and the United Kingdom's Northern European Satellite Test Bed. (See October 20-22, 1997; December 9, 1998.)

October 28, 1998: FAA recommended that pilots not take impotence drugs within six hours of flying because it could affect their ability to distinguish between the blues and greens found in cockpit instrument and runway lights.

October 28, 1998: FAA officials told a public hearing in Rockville, Maryland, that, while a federal plan to consolidate four of their region's air traffic control facilities would lead to an overall reduction in airplane noise, it also might aggravate the problem for some local communities. Under the plan, FAA would close the separate terminal radar control (TRACON) facilities at Dulles International, Reagan National, and Baltimore-Washington International airports and Andrews Air Force Base and open an overall center in Loudoun County or Fauquier County. (See January 7, 1999.)

November 6, 1998: President Clinton dedicated the new Northwest Arkansas Regional Airport in Highfill, Arkansas. He told the audience his administration was working to make the national aviation system better able to handle the anticipated 50-percent increase in global air travel in the coming seven years. He added that FAA and other agencies were working together "... to convert our air traffic control system to satellite technology, to change the way we inspect older aircraft, and most important over the long run, to combat terrorism with new equipment, new agents, and new methods."

November 12, 1998: Reacting to concerns raised by the September 2 crash of Swissair Flight 111, FAA ordered airlines to inspect two lighting dimmer switches that could overheat and emit smoke when installed in the cockpits of McDonnell Douglas MD-11 aircraft. McDonnell Douglas had issued a service bulletin three years before recommending replacement of the switches. One of the problems reported by the crew of Flight 111 before it crashed was smoke in the cockpit. (See September 2, 1998; December 9, 1998.)

November 20, 1998: FAA proposed to require foreign air carriers flying to and from the United States to implement security measures identical to those required of U.S. air carriers serving the same airports. (See September 25, 1998; November 23, 1998.)

November 23, 1998: FAA certified the eXaminer 3DX 6000 system manufactured by L-3 Communications as the second explosives detection system to meet the agency's certification requirements. (See November 20, 1998; March 31, 1999.)

December 3, 1998: In an emergency airworthiness directive, FAA ordered all Boeing 747 operators to carry more fuel in the center wing tank to ensure that the pumps are immersed in fuel when they are operating. (See October 1, 1998; March 3, 1999.)

December 9, 1998: FAA issued an airworthiness directive ordering inspection and possible replacement of electrical wiring above the forward passenger doors of McDonnell Douglas MD-11 aircraft. The order required a one-time visual inspection within ten days to detect problems such as nicks, fraying or chafing in the wiring above the left and right forward passenger doors. As part of the inquiry into the Swissair 111 crash off Nova Scotia in September, FAA learned that damaged electrical wires were found near the forward passenger doors of an MD-11 during regularly scheduled heavy maintenance. Further examination showed that, when the doors were raised to the open position, sliding panels above the doors moved inward and could have chafed the electrical wiring in those areas. The condition, if not fixed, might have led to an electrical fire in the passenger cabin. (See November 12, 1998; January 28, 1999.)

December 9, 1998: FAA and Chile's Director General of Civil Aeronautics completed the first test flights in Chile demonstrating the capabilities and benefits of the Wide Area Augmentation System installation at the Arturo Merino Benitez International Airport. (See October 15, 1998; January 5, 1999.)

December 15, 1998: Department of Transportation Secretary Slater announced that all flights of all U.S. carriers, both domestic and international, were now to be completely smoke-free. (See May 7, 1996.)

December 16, 1998: FAA issued a notice to airmen advising all civil aircraft operators that hostilities had begun in the airspace over Iraq and might also occur in the airspace over nearby nations and waters in the Arabian Peninsula, including the Persian Gulf and the Red Sea. FAA advised that operators flying in the area should strictly comply with aircraft identification procedures and monitor international emergency frequencies.

December 17, 1998: FAA's small airplane directorate issued the first U.S. type certificate for a Russian type design, clearing the way for import into the United States. The type certificate was issued at a ceremony at the Ilyushin plant attended by senior Russian officials and by U.S. Ambassador James Collins. An all-metal, two-seat propeller-driven aircraft powered by a single 210 HP Teledyne Continental Motors IO-360ES engine with a Hartzell propeller, the Ilyushin IL-103 was issued Certificate Number A45CE. It was certified in the utility category.

December 21, 1998: FAA Administrator Jane Garvey announced a new streamlined administrative action process that would reduce paperwork and shorten the time it took to resolve certain violations that did not pose a serious threat to aviation safety. At that time, it was taking an average of 75 days to resolve an administrative violation. Under the new program, FAA hoped to cut that delay to as little as seven days in some cases. Inspectors could use the new process to deal with alleged violations that did not require extensive investigation. (See July 15, 1999.)

## 1999

January 5, 1999: FAA announced it would revise the implementation schedule for the Wide Area Augmentation System to allow more time to complete development of a critical software safety package that would monitor, correct, and verify the performance of the system. FAA rescheduled the original July 1999 commissioning date for phase 1 of WAAS to September 2000. (See December 9, 1998; January 29, 1999; April 6-9, 1999.)

January 7, 1999: FAA announced the selection of Vint Hill Farms Station, a former military intelligence base in Fauquier County, Virginia, as the site for a \$93 million consolidated air-traffic control facility. FAA officials said the move would put controllers handling planes approaching, Dulles International, Reagan National, and Baltimore-Washington International airports, and Andrews Air Force Base under one roof to improve air safety and streamline costs. (See October 28, 1998; March 6, 2000.)

January 11, 1999: FAA issued final airworthiness directives calling for operators to limit the payloads of Boeing 727 aircraft. The orders placed restrictions on 727s converted from passenger to all-cargo operations until the floor structures were reinforced or they were re-qualified to carry higher payloads. FAA expressed concern that converted aircraft had design features, including under-strength cargo floors, did not meet FAA certification safety requirements for cargo carriers. The ADs required operators either to reduce payloads to 3,000 pounds per container or to adhere to interim operational limitations that would permit them to carry individual containers of up to 4,800 pounds. Operators had 90 days from the effective date to make the appropriate revisions to the airplane flight manuals, supplements to them, and airplane weight and balance supplements. If individual operators failed to complete modifications within 28 months, their allowed payloads would be permanently reduced to 3,000 per container.

January 13, 1999: FAA proposed mandatory tests for potential cracks in valves in some 737 rudder power control units (PCUs). The NPRM entailed an airworthiness directive that would apply to all Boeing 737-100 through -500 series aircraft. This AD was proposed in response to the PCU supplier's discovery of cracks in a component of a valve assembly. In addition, cracks had been found by operators before they installed valves in their aircraft. The proposed rule would order operators to perform tests on their PCUs to detect cracks in a joint in the servo valve that regulates the intake of hydraulic fluid to the PCU. Analysis had shown that a single crack in one leg of the component was not in itself an unsafe condition. A crack in both legs, however, could have caused the



component to break apart and jam the valve assembly. If a crack were found during the test process, the AD required the operator to replace the defective valve with a modified valve. (See March 14, 1997; May 3, 1999.)

January 20, 1999: Department of Transportation Secretary Rodney Slater and FAA Administrator Jane Garvey dedicated a new, first-of-its-kind air traffic control system, the Display System Replacement, at the air route traffic control center in Auburn, Washington. The DSR replaced equipment that had been in service for 20 to 30 years with upgraded displays, and computer hardware and software. (See March 14, 1997; July 14, 2000.)

January 28, 1999: FAA ordered inspections of wiring and insulation in the cockpit and cabin on the entire U.S. commercial fleet of McDonnell Douglas MD-11s. The Airworthiness Directive was under development even prior to the January 11 recommendation of the National Transportation Safety Board on MD-11 wiring. It also followed discussions with the Canadian Transportation Safety Board and NTSB, which resulted in a December 22, 1998, Canadian Transportation Safety Board safety advisory letter suggesting a closer look at the wiring in the MD-11 fleet. Several MD-11s were examined as part of the Swissair accident investigation. Based on the wiring discrepancies found, the directive required U.S. operators to perform the inspections, and make any necessary repairs, within 60 days and report findings to the FAA. (See December 9, 1998; April 20, 1999.)

January 29, 1999: FAA announced findings that, with some anticipated improvements, an augmented global positioning system (GPS) could serve safely and reliably as the only navigation system installed in aircraft and the only navigation system provided by the FAA. The findings were taken from an independent assessment of GPS capabilities conducted by the Johns Hopkins Applied Physics Laboratory for the FAA, Aircraft Owners and Pilots Association, and the Air Transport Association. Features of the Wide Area Augmentation System (WAAS) and the Local Area Augmentation System (LAAS), both under development, were expected to provide the improved accuracy, integrity, and availability of the GPS signal referred to in the findings. (See June 3, 1998; January 5, 1999; April 2, 1999; April 6-9, 1999.)

February 3, 1999: Department of Transportation Secretary Rodney Slater announced that the Clinton Administration would propose legislation to promote competition at large airline hubs dominated by one airline. The draft legislation would state that before they could raise passenger fees, the operators of such facilities would be required to explain how they intended to promote competition. The bill would also include a proposal to charge fees for use of the air traffic systems and would require a "performance based-organization" to be created to provide for air traffic control within FAA. Aspects of these proposals proved controversial and ran into stiff opposition in Congress and in portions of the aviation community. (See April 5, 2000.)

February 9, 1999: Working in partnership with the aviation industry, FAA announced it had reached an agreement with pilots and airlines regarding procedures affecting the

conduct of land and hold short operations (LAHSO). The agreement dealt with runway surface and weather minima, training, visual aids, landing distance, and rejected landings. Highlights included:

- Air carriers would conduct LAHSO only on dry runways until such time as the manufacturers had provided actual demonstrated landing distance figures on wet runways for the aircraft in question.
- FAA would issue a flight standards handbook bulletin specifying that before an air carrier could conduct LAHSO, it must provide a pilot training program for the LAHSO procedure.
- Use of LAHSO would not be authorized on a runway lacking electronic or visual vertical guidance (i.e., an improved LAHSO lighting configuration).
- For each type of aircraft with LAHSO, the runway landing length would be the greater of the simultaneous operations on intersecting runway category length or FAA approved aircraft flight manual distance plus 1000 feet.

To ensure that the appropriate level of safety was maintained, only LAHSO configurations which did not require a rejected landing instruction, or for which a rejected landing instruction was published, were to be used by air carrier aircraft. (See July 14, 2000.)

March 3, 1999: In an airworthiness directive to go into effect March 18, FAA ordered operators of certain Boeing 737-100, -200, -300, -400 and -500 aircraft to inspect and correct any chafing of float switch wiring found in the center fuel tank. The float switch, powered by direct current, automatically closed the fueling valve to prevent the fuel tank from being overfilled. Chafed wiring associated with this device, however, could have provided an ignition source inside the tank. The agency required that each aircraft's float switch be removed or deactivated and inspected for evidence of chafing – such as electrical arcing or worn insulation – either within 30 days of the AD effective date, or before the aircraft could accumulate 30,000 total flight hours. Under the terms of the AD, operators might install protective Teflon sleeving and wiring, allowing reuse of the float switch, or they might install a new float switch with the necessary Teflon sleeved wiring. Alternatively, operators might deactivate the float switch and paint a "caution" sign adjacent to the aircraft-fueling panel to indicate a mandatory reduction of the maximum fuel capacity with associated modified fueling procedures to minimize the possibility of fuel spills. (See December 3, 1998, October 28, 1999.)

March 8, 1999: FAA released the National Airspace System plan, version 4.0. The update extended the agency's modernization strategy through 2015.

March 11, 1999: Department of Transportation Secretary Rodney Slater and FAA Administrator Jane Garvey dedicated the newest FAA air traffic control computer system in a ceremony at the New York Air Route Traffic Control Center. They dedicated the Host and Oceanic Computer System Replacement, known as HOCSR, a key component of the NAS infrastructure modernization program and FAA's Year 2000 (Y2K) compliance effort. The new system was more than four times faster and orders of magnitude more reliable than its predecessor – while occupying only an eighth of the

floor space of the system it replaced. The New York Center's HOCSR, the first in the nation, went online February 24. (See September 30, 1999).

March 15, 1999: FAA announced it had issued a launch license to a Boeing-led international consortium to conduct a first-of-its-kind demonstration space launch, targeted for March 2, from a sea-going platform in the mid-Pacific. The 40 percent Boeing-owned partnership would use a Ukrainian-built Zenit booster rocket and a Russian-built upper stage in the demonstration. The launch platform, a converted self-propelled oil drilling platform, would be accompanied to the launch site by an assembly and command ship designed and built by Kvaerner Maritime of Norway, another partner in the undertaking. (See September 24, 1998; April 21, 1999.)

March 31, 1999: FAA announced plans to purchase more than 150 additional security devices for the nation's airports, continuing to implement a recommendation by the White House Commission on Aviation Safety and Security. The purchase of 21 FAA-certified explosives detection systems and 135 trace explosives detection devices added to the multi-year deployment of innovative security equipment. Purchases to date included 95 FAA-certified explosives detection systems, 20 automated dual-energy X-ray machines, two quadrupole resonance devices, and 462 trace explosives detection devices. The trace explosives detectors were being deployed primarily at airport security checkpoints for screening carry-on bags. The other machines were bulk explosives detectors used to examine checked baggage. (See November 23, 1998; April 15, 1999.)

April 1, 1999: President Clinton signed Public Law 106-6, Interim Federal Aviation Administration Authorization Act.

April 2, 1999: FAA announced an agreement to join with Raytheon Systems, and Honeywell Inc. in the development of the Local Area Augmentation System. Raytheon and Honeywell would provide funding for the development, and FAA would provide the LAAS specifications and expertise on development and certification. (See January 29, 1999; August 13, 1999.)

April 6-9, 1999: Raytheon completed the first of three major system integration milestones for WAAS. Called stability build, the test showed the ability of the Wide Area Augmentation System (WAAS) to provide augmentation to the U.S. global positioning system (GPS) system. During the test, the system operated continuously for 72 hours using WAAS ground and space components. In monitoring the test, Raytheon and FAA examined data from several locations, including Denver, Oklahoma City, and Dayton. The next system integration milestone, the Full Functionality Build, would be followed by the performance build, the final software build designed to show that the system was ready to enter formal system testing. (See January 5, 1999; August 24, 2000.)

April 12, 1999: FAA commissioned the National Airport Pavement Test Facility. (See April 1, 1997.)

April 15, 1999: FAA proposed a rule to strengthen security of checked baggage in the domestic aviation system. The proposal would require airlines to apply additional

security to the checked baggage of some passengers. The rule directed the use of automated screening procedures, but provided options for airlines that choose to apply additional security to all passengers. The Computer Assisted Passenger Screening program (CAPS) would replace manual programs. CAPS used data from existing airline reservation systems to select baggage randomly or through preprogrammed criteria. The proposed rule would require CAPS for scheduled operations on any aircraft with 61 seats or more. (See March 31, 1999; November 2, 1999.)

April 20, 1999: FAA ordered operators of 45 McDonnell Douglas MD-11s registered in the U.S. to verify the installation of a wire harness support bracket and clamp in the lower center cargo compartment. A missing bracket and clamp could have caused a wire bundle to contact the insulation blanket and rub against the fuselage frame, producing a possible fire source. The Emergency Airworthiness Directive affected MD-11s equipped with a 72-inch cargo door. MD-11s with a 104-inch cargo door had a different wire bundle configuration. Operators of the affected aircraft were required to perform inspections, verify the installation of the bracket and clamp, and repair any damaged wires within five days. All findings had to be reported to the FAA within ten days after completion of the inspections. (See January 28, 1999; September 29, 1999.)

April 21, 1999: Following industry review of applicable safety guidelines, FAA issued a notice of proposed rulemaking for reusable launch vehicle and reentry licensing regulation and continued to work with industry to develop a regulatory program to address public safety issues. (See March 15, 1999; June 21, 1999.)

April 26, 1999: FAA ordered operators to inspect for and correct possible fatigue cracks in the aft pressure bulkheads located near the tails of certain Boeing 737 aircraft. Stemming from reports of fatigue cracks on these components in some Boeing 737-200 models, the airworthiness directive applied to Boeing 737-100 through -500 aircraft. In some cases, to comply with the AD, operators had to perform a low-frequency eddy current inspection from the rear of the pressure bulkhead. In other instances, visual inspections from the front of the bulkhead were deemed sufficient.

April 26, 1999: FAA, the National Air Traffic Controllers Association (NATCA), and Professional Airways Systems Specialists (PASS) jointly announced a revised implementation plan for the Standard Terminal Automation Replacement System (STARS). The plan focused on developing the full STARS as soon as possible while simultaneously meeting short-term requirements for controller displays at a small number of FAA facilities. Under the revised plan, the first STARS would go into the terminal radar control (TRACON) facilities in Syracuse, New York, and El Paso, Texas. Initially, these sites would receive the early display configuration of STARS. In parallel, development would continue on the full STARS, which would include a new computer system. Once STARS had the capability to handle the needs of higher-level facilities, it would be deployed throughout the country. (See October 30, 1997; August 3, 1999.)

May 3, 1999: FAA, responding to pressure from federal safety officials, announced that it would require a major upgrade of aircraft flight data recorders and cockpit voice

recorders to provide better information after accidents. In particular, the FAA would require new on-board sensors to determine movements of the Boeing 737 rudder, which had been listed as the probable cause of two crashes. Administrator Jane Garvey revealed these plans during a panel discussion at a National Transportation Safety Board symposium on flight recorders in which NTSB Chairman Jim Hall had criticized the FAA for not responding quickly enough to his agency's recommendations. (See August 18, 1997; January 13, 1999; January 8, 2000; September 14, 2000.)

May 6, 1999: FAA announced that it had reached an agreement with the National Air Traffic Controllers Association to tighten the rules for its liaison and familiarization training program. This program authorized agency employees to sit in the cockpit during commercial flights, listen to air traffic control communications, and observe pilot procedures. The program was intended to promote better understanding of the pressures facing flight crews.

May 22, 1999: FAA ordered inspections on more than 1,000 Boeing 727 jetliners registered in the United States. A FAA spokesman said that the emergency airworthiness directive was sent after mechanics found severe wear on wires and holes in the tubing on two 727 cargo jets. Signs of electric sparking around the wires also were discovered. "This condition, if not corrected, could result in ignition of fuel vapors in a fuel tank, and a fuel tank explosion," read the FAA's telegram to 727 operators. *May 24*, FAA ordered operators of Boeing 727 aircraft to inspect, and if necessary replace, electrical wires running through fuel tanks. The agency previously announced it would follow its May 22 order for Boeing 727 fuel tank leak checks with a more comprehensive order for wiring inspections. The airworthiness directive required that operators remove and inspect wire bundles carried in conduits (tubes) through 727 fuel tanks. If chafing were found, the wires had to be replaced. The AD also required that all the wires be wrapped with an additional protective layer of Teflon. This had to be done immediately if the Teflon wrapping was available, otherwise at the next scheduled maintenance check. (See August 16, 2001.)

May 24, 1999: FAA released to industry a new computer tool designed to reduce the disk failure rate in turbine-powered jet engines. The computer tool complemented the actions announced earlier by FAA Administrator Jane Garvey that required enhanced inspections of engine fan disks to detect cracks that were potential precursors to uncontained disk failures. The disk design and life management tool, called "design assessment of reliability with inspection," allowed engine manufacturers to improve disk structural integrity. Engine manufacturers could run the code, along with their other design systems, on a computer workstation, to comply with the FAA's a planned advisory circular on disk life management.

May 28, 1999: FAA and Professional Airways Systems Specialists (PASS), representing approximately 7,600 employees, announced they had agreed to resume negotiations with the help of a mediator. (See January 11, 2000.)

June 3, 1999: A twin-engine McDonnell Douglas MD-80 carrying 139 passengers and six crew members, crashed at Little Rock National Airport as violent thunderstorms and winds swept through the region. Survivors said the plane swerved out of control almost immediately after making contact, slid off the end of the 7,200-foot runway at a high speed, and crashed into a steel tower. (See October 23, 2001.)

June 14, 1999: The media reported that some FAA lawyers planned to join a union. When Congress released FAA from many civil service rules, it had said that unionized workers could bargain with management over salaries. It also had given FAA the option of lowering salaries of unorganized workers via a core compensation plan. Air traffic controllers, who already were unionized, were the first FAA employees to bargain for salaries.

June 16, 1999: FAA proposed to revise and strengthen federal rules for maintenance performed at domestic and foreign repair stations. The proposed new regulation would ensure that certified repair stations were held responsible for all maintenance work that was outsourced to contractors.

June 21, 1999: Effective this date, FAA amended its commercial space transportation licensing regulations. The changes provided applicants and licensees greater specificity and clarity regarding the scope of a license, and codified and amended licensing requirements and criteria. (See April 21, 1999; November 9, 1999.)

July 10, 1999: FAA and an industry group conducted the first large-scale test of Automatic Dependent Surveillance — Broadcast (ADS-B), a technology designed to enhance safety by giving pilots and air traffic controllers more information about aircraft locations. Done in partnership with the Cargo Airline Association (CAA), the Wilmington, Ohio, tests evaluated how well ADS-B could help pilots be more aware of aircraft in their vicinity. Using an aircraft's global positioning system (GPS) sensor, ADS-B equipment would send very accurate position information, along with speed and identification data, to other similarly equipped planes and ADS-B ground receiving stations. During the test, participating flight crews monitored aircraft in their area using a special cockpit display. Air traffic control facilities received combined radar and ADS-B target information for evaluation. Ground receiving stations in Wilmington and Louisville, Kentucky, provided coverage throughout the 500-square-mile test area. Approximately 25 planes participated. This ADS-B operational evaluation was the first in a series of tests planned for the next three years under the FAA's Safe Flight-21 program. (See October 26-28, 2000.)

July 13, 1999: Former FAA Administrator Donald Engen died in the crash of a glider fitted with a small motor. A distinguished U.S. Navy and test pilot who retired as a vice admiral, Engen was 75.

July 15, 1999: FAA announced a new streamlined administrative action process to deal with violations that did not warrant serious legal enforcement action or pose a serious threat to aviation safety. This new way to resolve minor violations officially commenced

on August 30. Using the new process, an inspector would discuss the problem with the alleged violator, fill out a data entry form with all pertinent information, return to the office to check the person's history, enter the information in a database, and mail an automated warning notice to the individual. This person would still have an opportunity to provide additional information for the FAA's consideration. Previously, all administrative actions had involved a burdensome process that often entailed multiple letters of investigation and extensive files. (See December 21, 1998.)

July 16, 1999: John F. Kennedy, Jr., his wife Carolyn Bessette Kennedy, and her sister, Lauren Bessette, were killed when their small aircraft crashed into the Atlantic Ocean. Kennedy, a relatively inexperienced pilot, was flying the Piper Saratoga, a moderately complex plane that he bought the previous April. He took off without incident just after 8:30 p.m. from Essex County Airport in Fairfield, New Jersey. *July 6, 2000*, the National Transportation Safety Board released its final report on the crash and stated the probable cause of the accident was "The pilot's failure to maintain control of the airplane during a descent over water at night, which was a result of spatial disorientation. Factors in the accident were haze and the dark night."

August 3, 1999: The early display capability, or EDC, version of the Standard Terminal Automation Replacement System (STARS) entered its operational test and evaluation. The tests were scheduled to run through October 4. If STARS passed this series of tests, it would enter an initial operational capability phase at El Paso, Texas, in December 1999 and at Syracuse in January 2000. (See April 26, 1999; December 20, 1999.)

August 4, 1999: Due to provisions in legislation passed the previous year by the Congress, Monte Belger returned to his position as FAA associate administrator for air traffic services. The legislation, called the Vacancies Reform Act, was designed to limit the amount of time an executive in any federal agency might act in a position requiring Presidential appointment and confirmation by the Senate. The FAA Administrator had no plans to name another executive as acting deputy pending nomination by the White House of a candidate for the position. Monte Belger, however, still continued to perform significant management functions, because, under agency procedures, in the absence of a confirmed candidate, the associate administrator for air traffic services assumed the deputy administrator's duties. The air traffic services organization continued to be managed by Steve Brown, as deputy associate administrator. (See February 1, 1997; November 8, 1999.)

August 5, 1999: An agreement by major U.S. airlines to assess the safety of their foreign partners represented a major step in a long-term trend toward exporting U.S. aviation safety standards around the globe. The assessments took place as part of a growing worldwide arrangement among airlines called "code sharing," in which U.S. airlines shared flight numbers with foreign airlines. (See December 5-7, 1999.)

August 11, 1999: FAA Administrator Jane Garvey ordered operators of 699 aircraft to replace insulation blankets covered with metalized Mylar within four years. FAA also strongly encouraged operators to accomplish the insulation replacement during the

earliest practical maintenance check. The announcement followed eight months of extensive testing in support of the development of a new test standard for aircraft insulation. (See October 14, 1998; May 25, 2000.)

August 12, 1999: FAA agreed to take a series of steps to reduce air traffic control delays. In particular, FAA would strengthen the decision-making authority of its Command Center, allowing the Herndon, Virginia, facility to assert more authority over large portions of a network of air traffic control centers around the country.

August 13, 1999: FAA, UPS, and ATA conducted flight tests of the FAA prototype Local Area Augmentation System (LAAS) system at the FAA William J. Hughes Technical Center. Researchers studied the benefits of integrating a pseudolite into the existing LAAS prototype. A pseudolite is a ground component, installed at an airport that appears to an aircraft's navigation system to be the equivalent of a global positioning system (GPS) satellite. (See April 2, 1999; May 1, 2003.)

September 29, 1999: FAA banned installation of in-flight entertainment systems on all McDonnell Douglas MD-11 aircraft registered in the U.S. An agency review concluded that incompatibilities between the electrical power switching technologies of the entertainment systems and the design concept of the MD-11 airplane limited a flight crew's ability to respond to a smoke or fumes emergency. (See April 20, 1999.)

September 30, 1999: With the installation at the Honolulu Air Route Traffic Control Center, FAA completed installation of Host and Oceanic Computer System Replacement (HOCSR) systems at all 23 of its air traffic and oceanic centers. The availability of HOCSR completed the network that would provide the main computer and processor that produced and processed information on aircraft movements throughout domestic and oceanic airspace. The improved technology was more than four times faster and more reliable than its predecessor, while occupying only an eighth of the floor space of the systems it replaced. (See March 11, 1999.)

September 30, 1999: FAA announced it had chosen Lockheed Martin Air Traffic Management to continue development and deployment of the User Request Evaluation Tool (URET). Also called a conflict probe, the URET software gives controllers a strategic 20-minute look ahead to detect potential conflicts when considering pilots' requests for altitude and route changes. The system would be deployed and available to controllers in late 2001 and through 2002. (See April 16, 1998; December 2001.)

October 6, 1999: FAA selected the Societe Internationale Telecommunications Aeronautiques to provide standing data link communications services (the Future Air Navigation System, also known as FANS) to the Oakland, New York, and Alaska Air Route Traffic Control Centers. Previously, the FAA paid for data link communications services on a per message basis.

October 9, 1999: President Clinton signed the Department of Transportation and Related Agencies Appropriations Act of 2000. At the signing, however, he noted that he was "concerned about the funding level provided in the bill for FAA operations and capital



programs. For example, the bill provides \$144 million less than my request for FAA operations. This reduction will slow hiring for safety and security positions and postpone implementation of needed efficiency and management improvements. The bill also constrains funding for the modernization of the air traffic control system, including needed modernization and improvement of the Global Positioning System. These reductions may increase air travel delays and ill-position the FAA to meet the growing challenges of the future."

October 26, 1999: A Learjet, without a pilot in control, flew for almost four hours from Orlando, Florida, to a swampy grassland in South Dakota. The Learjet was shadowed by USAF and Air National Guard jet fighters, whose pilots reported that the aircraft's windows were frosted over, suggesting that it had lost pressurization. USAF pilots also reported that the Learjet meandered from as low as 22,000 feet to as high as 51,000 feet, but never strayed from a northwest heading. Pentagon officials said the military began its pursuit of the aircraft at 10:08 a.m., when two Air Force F-16 fighters from Tyndall Air Force Base in Florida on a routine training mission were asked by FAA to intercept it. The F-16s did not reach the Learjet, but an USAF F-15 fighter from Eglin Air Force Base in Florida got within sight of the aircraft and stayed with it from 11:09 a.m. to 11:44 a.m., when the military fighter was diverted to St. Louis for fuel. Fifteen minutes later, four Air National Guard F-16s and a KC-135 tanker from Tulsa were ordered to try to catch up with the Learjet, but got only within 100 miles. Two other Air National Guard F-16s from Fargo, North Dakota, intercepted the Learjet at 12:54 p.m., reporting that the aircraft's windows were fogged with ice and that no flight control movement could be seen. At 1:14 p.m., the F-16s reported that the Learjet was beginning to spiral toward the ground. Professional golfer Payne Stewart was killed in the crash.

October 28, 1999: Building on information gathered since the in-flight explosion of TWA Flight 800 three years before, FAA proposed a mandatory design review of fuel tanks on more than 90 percent of U.S. commercial aircraft fleet. One of the largest such orders ever contemplated, the proposal covered a total of about 6,000 aircraft – applying to all commercial aircraft, whether driven by jet power or propellers, that carry 30 or more passengers. The impact of the FAA proposal, if adopted, was expected to be felt worldwide. (See March 3, 1999; February 22, 2000.)

October 31, 1999: Egypt Air Flight 900 crashed and killed all 217 onboard. The voice and data recorders from the aircraft revealed that, just before the tragedy, one of the pilots, apparently alone in the cockpit, turned off the autopilot and then uttered a short prayer. The cockpit voice recorder tape also contained sounds similar to a door opening and closing more than once, sources said. This evidence led investigators to question whether one of the pilots left the cockpit, which would have given the other pilot the opportunity to take some action that could have led to the crash. (See March 21, 2002.)

November 2, 1999: FAA announced it had awarded a contract worth up to \$75 million to L-3 Communications to purchase up to 60 of its explosives detection systems. L-3 Communications was the second manufacturer to offer a system that met the FAA's rigorous certification standards. Under the contract, FAA could purchase up to 60

eXaminer 3DX 6000 explosives detection systems over three years. (See April 15, 1999; December 21, 1999.)

November 8, 1999: President Clinton announced his intention to nominate Monte Belger to be FAA deputy administrator. He submitted Belger's name to the Senate for confirmation on November 10. (See August 4, 2000; August 2, 2002.)

November 9, 1999: FAA announced that it had signed a memorandum of understanding with NASA concerning the future of space transportation research activities, especially the development of reusable launch vehicle technology. (See June 21, 1999; October 19, 2000.)

December 3, 1999: Runway 8/26 opened at Philadelphia International Airport.

December 5-7, 1999: Department of Transportation Secretary Rodney Slater hosted the Aviation in the 21st Century–Beyond Open Skies “ministerial” in the same hotel where, fifty-five years before, the 1944 Chicago Convention on International Civil Aviation produced recommendations for practices and procedures that had thereafter guided world aviation. This new ministerial, attended by more than 900 persons from ninety-three nations, explored challenges and opportunities in the aviation system of the 21st century. On the last day of the conference, Slater announced FAA would require airlines to conduct safety assessments of their foreign airline partners. U.S. agencies, would not, however, directly assess the safety of any foreign airline, even if U.S. passengers were flying that carrier on a code-share ticket. (See August 5, 1999.)

December 8, 1999: FAA issued an AD ordering inspection of backup generators on Boeing 777-200 and -300 airplanes and requiring their operators to replace, within 14 days, any found to have sheared shafts.

December 19, 1999: FAA informed U.S. carriers that reserve rest requirements for pilots must be fully implemented. The decision to no longer offer exceptions to the policy was welcomed by the Air Line Pilots Association, who said that U.S. carriers have known about the requirement since June 1998 and had no excuse for asking for further extensions. A spokesperson for the union also said that it would be unfair to airlines already implementing the reserve rest requirement, as well as the public, if non-conforming airlines were granted exceptions. The reserve rest rule stipulated that airlines must give pilots who are reserve duty at least nine hours rest before placing the on reserve or “on call” status.

December 20, 1999: FAA started controlling arriving and departing air traffic in El Paso , Texas, with the new Standard Terminal Automation Replacement System (STARS) air traffic controller workstations. This was the first component to become operational as part of a phased strategy to deploy this state-of-the-art, full-service system nationwide. Controllers and technicians at this West Texas TRACON successfully integrated the new workstations, featuring high-resolution color monitors, with the existing automation system. (See August 3, 1999; January 12, 2000.)

December 21, 1999: Security at the nation's airports was tightened in response to the arrest, the previous week, of a man allegedly trying to smuggle explosives into the United States. FAA announced it would make more use of devices that check airline passengers for trace amounts of explosives. Also, more bomb-sniffing dogs and uniformed police would begin patrolling airports, both inside and outside. The measures came amid concern about the possibility of acts of terrorism in the United States and abroad during the holidays. (See November 2, 1999; January 5, 2000.)

December 21, 1999: FAA made the Surface Movement Advisor (SMA) available to the Dallas-Ft. Worth, Chicago O'Hare, Newark, and Teterboro airports ten days ahead of schedule. SMA would provide aircraft arrival information to airline ramp towers and operation centers. The scope of this information included aircraft identification and position in terminal airspace, details that could be used to compute estimated time to touchdown in order to better manage gates and other ground operations. Staff at Northwest Airlines additionally estimated that the enhanced situational awareness they received through SMA allowed them to avoid three to five costly diversions per week at Detroit Metropolitan airport.

December 31, 1999: The U.S. air traffic control system successfully rolled over to January 1, 2000, with no disruptions to service.

## 2000

January 4, 2000: A Government Accountability Office (GAO) report issued this day revealed FAA had failed to conduct security checks on dozens of foreign nationals hired to fix Y2K problems in sensitive computer systems used for air traffic control. GAO said FAA had violated its own security policy by allowing foreign employees, who had not received background checks and were working for the agency's contractors, to be involved in repairing 15 of 153 critical computer systems. The House Science Committee had asked GAO to investigate how much FAA relied on foreign nationals for Y2K preparedness. FAA announced it was taking immediate steps to implement all of the GAO recommendations.

January 5, 2000: FAA proposed a rule that would require agency certification of companies hired by the airlines to perform security screening at airports. The rule would set standards for companies providing security screening, strengthen training and testing standards for screeners, and impose more stringent experience and training requirements on screening company managers and instructors. (See December 21, 1999; May 19, 2000.)

January 8, 2000: The National Transportation Safety Board recommended that all turbine-powered aircraft then exempt from flight recorder rules be required to be equipped with crash-protected video recorders. Under NTSB's recommendation, the requirement would first affect planes that carry passengers for hire and would take effect within five years of adoption of a technical standard order covering the devices by FAA. The NTSB recommendation followed adoption of its final report on the October 8, 1997,

crash of a Scenic Airlines Cessna 208B in Montrose, Colorado. All nine persons aboard. The pilot and eight employees of the U.S. Department of Interior's Bureau of Reclamation, died in this tragedy. According to the report, while flying the aircraft at nearly its maximum gross weight and aft center of gravity, in nearly full to full instrument flight conditions, the pilot had apparently failed to maintain sufficient airspeed. Without access to a crash-protected video recorder, the board could not determine exactly why the pilot had allowed the aircraft to fly too slowly. The most likely factors contributing to the accident, however, were the pilot's improper in-flight planning, his faulty decision-making, and his failure to use proper stall/spin recovery techniques. (See May 3, 1999; August 18, 2003.)

January 10, 2000: FAA and Wildlife Services of the U.S. Department of Agriculture announced publication of a manual to help combat wildlife hazards at airports. The manual, the first of its kind in the United States, was the culmination of years of research, airport site visits, and training conducted by the two agencies. The manual contained information designed to assist airport personnel in addressing airport wildlife hazard issues and enhancing aviation safety.

January 11, 2000: FAA announced that, after more than one year of negotiations and several months of mediation through the Federal Mediation and Conciliation Service, it had signed a tentative five-year labor agreement with the Professional Airways Systems Specialists. Union employees ratified the contract in early May. (See May 28, 1999.)

January 12, 2000: FAA achieved initial operating capability on its second EDC of the Standard Terminal Automation Replacement System (STARS) at the Syracuse, New York, TRACON. *January 28*, FAA Administrator Jane Garvey formally dedicated the new system at Syracuse. (See December 20, 1999; May 9, 2002.)

January 14, 2000: The White House unveiled a new FAA program to give airline pilots and mechanics a no-penalty way to report safety-related incidents and problems. The Aviation Safety Action Program (ASAP), patterned after a successful American Airlines program begun in 1996, encouraged pilots and mechanics to volunteer information that could help prevent accidents. In return, FAA and the airlines promised not to take action against pilots and mechanics in most cases.

January 31, 2000: Alaska Air Flight 261, a Boeing MD-83, crashed into the ocean off Point Magu, California, killing all 88 on board. Before the plane suddenly dived 17,900 feet into the water, the crew had reported a stabilizer jammed in a position that pushed the aircraft downward. (See February 10, 2000.) *December 10, 2002*, the National Transportation Safety Board determined that the probable cause of this accident was the loss of airplane pitch control resulting from in-flight failure of the horizontal stabilizer trim system jackscrew assembly's acme nut thread. The component failed because of excessive wear resulting from Alaska Airlines' insufficient lubrication of the jackscrew assembly. Contributing to the accident were the carrier's extended lubrication and end play check intervals, and FAA's approval of these intervals.

February 4, 2000: FAA awarded a multi-million-dollar contract to Computer Sciences Corp. to begin the software development and implementation of the Controller-Pilot Data Link Communications project (CPDLC). Designed to provide more efficient, automated communications between controller and pilot, and CPDLC would reduce operational errors resulting from misunderstood voice communications. FAA planned to deploy the prototype system at the Miami Air Route Traffic Control Center in June 2003 with national deployment beginning six months later at the other 19 air route traffic control centers. (See April 16, 1998; October 7, 2002.)

February 10, 2000: FAA ordered an immediate inspection of the entire fleet of single-aisle planes built by McDonnell Douglas after inspectors found two Alaska Airlines aircraft with damage in the tail section similar to that found in the wreckage of Alaska Airlines Flight 261. The airworthiness directive required a visual inspection of the jackscrew assembly of the horizontal stabilizer within three days and a more sophisticated examination within 30 days. Sources close to the investigation of the fatal crash reported that there was preliminary evidence of extreme wear on parts of the stabilizer control system in the tail of the MD-83 aircraft that plunged into the Pacific near Los Angeles on January 31. (See January 31, 2000; March 17, 2000.)

February 22, 2000: After the German airline Lufthansa found cracked copper lines and ordered Boeing 747s in its fleet grounded briefly for inspections, FAA announced plans to order an inspection of the engine fire suppression system on Boeing 747-400s registered in the United States. (See October 28, 1999; April 27, 2001.)

February 23, 2000: FAA Administrator Jane Garvey accepted a report from the Fractional Ownership Aviation Rulemaking Committee, chartered in October 1999, outlining their views on the best ways to improve oversight of aircraft owned by multiple entities. (See November 17, 2003.)

February 24, 2000: Effective this date, FAA added Pacific oceanic areas to the airspace where the principles of Reduced Vertical Separation Minima could be applied. Previously, RVSM was only used in North Atlantic minimum navigation performance specifications airspace. The introduction of RVSM procedures in Pacific oceanic airspace made more fuel- and time-efficient flight levels and tracks available to operators. (See April 9, 1997; December 10, 2001.)

February 2000: The Department of Transportation and the Department of Defense jointly released the 1999 Federal Radionavigation Plan, which included provisions for two additional global positioning system (GPS) signals for civil use and a revised schedule for making the transition to GPS. (See March 26, 2002.)

March 5, 2000: Southwest Airlines Flight 1455, a Boeing 737-300, overran the departure end of Runway 8 after landing at Burbank-Glendale-Pasadena Airport, Burbank, California. The airplane touched down at approximately 182 knots. About 20 seconds later, at approximately 32 knots, the airplane collided with a metal blast fence and an airport perimeter wall. The airplane came to rest on a city street near a gas station beyond

the airport property. Of the 142 persons on board, two sustained serious injuries; 41 passengers and the captain sustained minor injuries; and 94 passengers, three flight attendants, and the first officer sustained no injuries. The airplane sustained extensive damage and some internal damage to the passenger cabin. *June 26, 2002*, the National Transportation Safety Board determined that the strongest probable cause of the accident was the flight crew's excessive airspeed and flight path angle during the approach and landing. NTSB also noted that the crew had failed to abort the approach when stabilized approach criteria were not met. Contributing to the accident was the air traffic controller's positioning of the airplane, which was too high, too fast, and too close to the runway threshold. As a result, no safe options existed for the flight crew other than a go-around maneuver. Despite all of these factors, however, NTSB concluded that, had the accident flight crew applied maximum manual brakes immediately upon touchdown, the airplane would likely have stopped before impacting the blast fence. (See March 14, 2000.)

March 6, 2000: FAA broke ground for a new regional air traffic control center on a 33-acre site in Vint Hill, Fauquier County, Virginia, that would replace the radar monitoring facilities at Baltimore-Washington International, Dulles International, Reagan Washington National, and Andrews Air Force Base. The new TRACON would guide aircraft within about a 75-mile radius of Washington, DC. (See January 7, 1999; December 14, 2002.)

March 10, 2000: President Clinton, along with Department of Transportation Secretary Rodney Slater, announced FAA and the aviation industry were launching a new effort to improve the flow of air traffic during severe weather. The Spring/Summer 2000 severe-weather plan, slated to begin March 12 and to be fully phased in on April 1, would maximize the use of available air space, improve communications between FAA and the airline industry, and expand the use of new technology to help reduce weather-related delays. At that time, the president also charged FAA to develop, in 45 days, a broader plan for reform of the air traffic control system.

March 13, 2000: FAA received a clean audit from the Department of Transportation Inspector General for fiscal year 1999, marking the first time FAA achieved approval of its financial statements since the audits began in fiscal year 1992. The report presented an unqualified or "clean" opinion on the full set of FAA financial statements.

March 14, 2000: FAA Administrator Jane Garvey announced new initiatives to enhance runway safety, including a series of workshops that would be held around the country to produce regional and local plans to reduce runway incursions. These workshops would be followed by a national summit. FAA also announced initiation of a program for pilots involved in such incidents to help determine the root causes of the events. (See March 5, 2000; June 14, 2000.)

March 17, 2000: The National Transportation Safety Board released its conclusions that the horizontal stabilizer jackscrew, which apparently played a key role in the January 31 crash of Alaska Airlines Flight 261, had no grease on the area that experienced the most

friction during normal operation. In a brief statement, the NTSB did not comment on the meaning of the finding by its laboratory. Sources close to the investigation said the discovery was potentially significant, although more work had to be done to determine whether the area was dry before the crash that killed 88 people near Los Angeles or whether the grease was removed by the violent plunge into the Pacific. (See February 10, 2000.)

March 29, 2000: Effective this date, FAA required all airplanes with U.S. registry outfitted with six or more passenger seats also to be equipped with an FAA-approved terrain awareness and warning system (referred to as an enhanced ground proximity warning system). This announcement came in response to several accident investigations and studies that showed a need to increase the warning times and situational awareness of flight crews to decrease the risk of controlled flight into terrain accidents. (See December 15, 1997.)

March 30, 2000: Controllers at the Minneapolis Air Route Traffic Control Center started testing an advanced computer tool designed to help them direct more aircraft into airports during busy hours. The Traffic Management Advisor (TMA) would look at planes several hundred miles from selected airports as they approached from all directions. As the aircraft got closer, TMA would help controllers develop plans to handle the traffic effectively according to the spacing requirements for each airport. The new system was to be one half of FAA's Center-TRACON automation system. The other component – the passive final approach spacing tool – would be located at the agency's terminal radar control (TRACON) facilities in Atlanta, Dallas/Fort Worth, Los Angeles, Minneapolis, and St. Louis. (See April 16, 1998.)

April 1, 2000: FAA ordered immediate inspections of 14 Boeing 717-200 airliners to check for potential electrical problems in their integrated standby instrument system altitude displays. The AD required modification before further flight. The mandate followed reports of two instances of intermittent loss of altitude data on the captain and first officer's primary flight display and the altitude display. In both cases, the airspeed and attitude indication remained operational and the flights continued to their destinations without further incident.

April 5, 2000: President Clinton signed into law the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, known more commonly as AIR-21. The bill contained new provisions to advance aviation safety and call for the appointment of a chief operating officer. The act also reauthorized the Airport Improvement Program (AIP) through FY 2003. AIR-21 instituted many changes to the AIP, including changed to funding levels, revised criteria for program eligibility, and expanded pilot programs. The authorized AIP funding level significantly increased in FY 2001 to a level of \$3.2 billion, growing to \$3.4 billion in FY 2003. This legislation also added two new PFC levels - \$4 and \$4.50, including new requirements. (See February 3, 1999; April 23, 2000; June 10, 2003.)

April 6, 2000: FAA awarded a contract worth up to \$22 million to Airsys ATM, Inc., for the acquisition of up to 105 ILS configurations. The ILS, a primary landing system, provided vertical and lateral guidance to aircraft during the final approach and landing phases of flight.

April 10, 2000: FAA established a permanent mentor protégé program designed to broaden the agency's contractor base by encouraging prime contractors to mentor socially and economically disadvantaged small businesses. In April 1997, the agency had implemented a pilot program that successfully enhanced the capabilities of small businesses to work on high-tech FAA contracts and subcontracts. The permanent program would further invite FAA prime contractors and subcontractors to assist or partner with small socially and economically disadvantaged businesses, historically black colleges and universities, minority institutions, and women-owned small businesses.

April 10, 2000: FAA announced that the International Civil Aviation Organization had found that the agency met safety oversight standards for international aviation in a first-ever audit conducted June 1999.

April 23, 2000: Approximately 6,500 FAA employees transferred into a new market- and performance-based compensation system closely linked to the strategic goals of the agency. The new core compensation plan replaced the general schedule grade levels with twelve pay bands linked to market pay levels. An executive compensation system became effective on the same date for senior executives. (See April 5, 2000; December 7, 2000.)

May 1, 2000: FAA announced it had begun use of electronic air/ground communication services for aircraft operating over the Atlantic Ocean. The same system had been operating for aircraft flying over Pacific Ocean airspace for more than a year. FAA's New York Air Route Traffic Control Center had begun initial operations, in March, of the multi-sector oceanic data link system – technology that provided a means for air traffic controllers to have two-way electronic communications with aircraft equipped with data link. This system eliminated the need for voice communication between data link-equipped aircraft and air traffic controllers, improving the reliability and timeliness of message delivery. In conjunction with aircraft equipped with the future air navigation system – an international standard for avionics that are compliant with oceanic data link) – the system provided a means to check automatically pending clearances for conflicts while allowing the flight crews to load flight clearances they had received into the aircraft's flight management system.

May 16, 2000: FAA announced it had recently completed the final installation and acceptance of innovative air surveillance radar technology that would enhance air safety through improved position information and weather detection. The air route surveillance radar (ARSR-4) replaced obsolete radar with long-range, three-dimensional radar providing aircraft position information to FAA, USAF, Navy, and Customs Service. The new technology could detect a one-square-meter object out to 250 nautical miles, a 50 nautical mile increase over previous long-range radar models. The ARSR-4 also provided weather data to both FAA and National Weather Service. The program consisted of 43



operational systems deployed around the periphery of the continental United States as well as in Guam, Hawaii, and Guantanamo Bay, Cuba. The 44th system was used for support at the FAA Academy at the Mike Monroney Aeronautical Center in Oklahoma City. The twelve-year FAA/Department of Defense (DoD) ARSR-4 program began with a contract award in 1988 to Northrop Grumman. FAA commissioned the first system April 1996 in Tamiami, Florida. Total program costs were \$800 million, half of which DoD paid.

May 18, 2000: FAA ordered 120 Boeing 767 aircraft to undergo emergency inspections after airline mechanics found damaged bolts in the engine pylons of one of the planes. Under the directive, airlines had five to ten days to complete the inspections.

May 19, 2000: FAA announced grant awards to three companies totaling about \$8.6 million to develop explosives detectors. The new systems would be used to scan checked baggage at smaller air carrier stations that did not need the high baggage-processing rate of current systems. The grants provided \$7.5 million to InVision Technologies Inc., of Newark, California; \$757,432 to L-3 Communications of New York City; and \$313,309 to PerkinElmer Inc., of Wellesley, Massachusetts; for the delivery of prototypes within 15 months. The grant project was designed to expedite the development of low-cost certified explosives detection systems. (See January 5, 2000; July 19, 2000.)

May 24, 2000: FAA issued a notice of proposed rulemaking that would require air carrier operators have automated external defibrillators aboard large, passenger-carrying aircraft and to augment required emergency medical kits. It would affect those operations for which at least one flight attendant was required and, if adopted, would require instruction on the use of the equipment. (See April 12, 2001.)

May 25, 2000: FAA issued final rules ordering operators of 719 Boeing MD-80, MD-88, MD-90, DC-10, and MD-11 aircraft to replace insulation blankets covered with metalized Mylar. The agency had proposed the rules in August 1999 to minimize the risk of fire spreading aboard these types of aircraft. The airworthiness directives required operators to determine whether their planes had metalized Mylar-covered insulation materials, if so to note where they were located, and to replace them with new insulation blankets within five years. Replacement materials had to meet FAA's new flame propagation standard, which was based on an American Society for Testing and Materials flammability standard. (See August 11, 1999; September 8, 2000.)

May 25, 2000: FAA told air traffic controllers nationwide to review emergency procedures after a US Airways flight with a dying passenger was delayed in making an emergency landing in Baltimore, Maryland. A US Airways spokesman said the airline followed all on-board procedures, including the use of a heart defibrillator, and that three passengers who were nurses volunteered to help. Sources close to an investigation of the incident said that the 50-year-old woman did not respond to the emergency treatment, and that the delayed landing probably was not a factor in her death.

May 30, 2000: FAA published in the *Federal Register* a final rule modifying Part 158 to incorporate changes mandated by the Wendell H. Ford Aviation Investment and Reform Act of the 21st Century, including adding \$4.00 and \$4.50 Passenger Facility Charge (PFC) levels.

May 31, 2000: FAA announced the start of operational use of a new tool designed to help reduce delays at major airports in the northeastern part of the U.S. Installation of the departure spacing program (DSP). Achieving this start-up was one of the first milestones in the Spring 2000 initiative, announced in March by President Clinton and Department of Transportation Secretary Rodney Slater. A coordination and planning tool, DSP used pertinent air traffic information from airports equipped with the system, along with other information from filed flight plans, to space departing aircraft more evenly. This innovation allowed the best use of existing capacity, expediting the flow of air traffic while minimizing delays. The tool had been in use at LaGuardia, Kennedy, Newark, and Philadelphia airport towers and in TRACONS in the New York area since April 2000.

June 2, 2000: Department of Transportation issued a rule prohibiting smoking on all scheduled passenger flights by U.S. airlines and on scheduled passenger flights of foreign carriers into and out of the U.S.

June 5, 2000: FAA announced aircraft operators would be required to pay fees for air traffic control services provided to aircraft that operated in U.S. airspace, but did not take off or land in the United States. Unlike other aircraft operations, these overflights had not been paying for the FAA air traffic control services they received. The authority to charge fees to aircraft conducting U.S. overflights was contained in the Federal Aviation Reauthorization Act of 1996. The agency issued an interim final rule in 1997, but a U.S. Court of Appeals decision in January 1998 determined that FAA's calculation of fees was inconsistent with the statute. Under the new rule, fees would be based on the distance flown through airspace under U.S. control. Overflights would be charged at the rate of \$37.43 per 100 nautical miles in the en route environment, and \$20.16 per 100 nautical miles in the oceanic environment. No charges would be assessed on military and civilian aircraft operated by the U.S. government or by a foreign government. In addition, users who incurred \$250 or less in fees per month would not be charged for operations. (See May 19, 1997; August 1, 2000.)

June 9, 2000: FAA issued directives to the airports and air carriers that strengthened procedures for verifying the credentials of law enforcement officers who carried arms on board aircraft or into secure areas of airports.

June 14, 2000: The National Transportation Safety Board urged the installation of warning systems that would prevent runway incidents at all 382 airports handling regularly scheduled passenger flights. *June 26*, FAA announced it would buy a new ground surveillance system that would improve runway safety at 25 airports. The new airport surface detection equipment, called ASDE-X, would provide detailed coverage of runways and taxiways at an airport and also alert air traffic controllers in the tower to impending collisions. The new system provided similar data to the current ASDE-3 ground radar installed at 34 of the nation's busiest airports. Those airports would also

have the Airport Movement Area Safety System (AMASS) in operation by late 2002. AMASS was a computer enhancement to the ASDE-3 radar that alerted controllers to an impending collision on or near the runway. ASDE-X offered the functions of ASDE-3 and AMASS at less-busy and complex airports and at lower cost. FAA planned to award a contract for production of ASDE-X in September. (See March 14, 2000; July 15, 2000; October 24, 2000.)

June 30, 2000: FAA proposed a rule to give the agency access to key safety data from every U.S. airline participating in the Flight Operational Quality Assurance (FOQA) program. FAA planned to use this information to identify aviation safety trends and target potential problems. Airlines collected data about everyday safety trends in their operations and would now be required to share the data with FAA. The agency would then use the data to identify industry-wide safety trends, allowing FAA and industry to target resources more effectively to correct potential safety problems. The information and insights provided by these programs could enhance line operational safety, training effectiveness, operational procedures, maintenance and engineering procedures, air traffic control procedures, and airport surface safety. Participation in FOQA was voluntary and programs had to be FAA-approved. The agency would not use FOQA data for enforcement purposes, except in egregious cases. (See June 25, 2001.)

July 14, 2000: Department of Transportation Secretary Rodney Slater and FAA Administrator Jane Garvey marked the completion of the effort to modernize the nation's air traffic control system by dedicating the 20th and final installation of new DSR hardware and supporting computers. The last system in the \$1.05 billion FAA program to replace older computers and displays was dedicated at the Washington Air Route Traffic Control Center in Leesburg, Virginia. (See January 20, 1999.)

July 14, 2000: FAA announced an agreement among the airlines, airline pilot groups, and others in the aviation industry to continue land and hold short operations (LAHSO). As a result, FAA said it would issue an order implementing changes to LAHSO. The order, which went into effect August 14, permitted expanded use of the procedure. LAHSO, an aviation procedure used since 1968, increased capacity at airports with intersecting runways by allowing aircraft to land and stop on long runways before an intersection with another runway. Stopping short allowed the air traffic controller to have another aircraft take off or land on the intersecting runway. LAHSO had been refined through years of operational experience and cooperation among FAA, airlines, pilots and controllers. (See February 19, 1999.)

July 15, 2000: FAA completed the first live flight demonstration of the Airport Movement Area Safety System (AMASS) at San Francisco International Airport. Two FAA aircraft – a Boeing 727 and Convair 580 – participated in the demonstration. AMASS gave controllers aural and visual alerts when aircraft on the airport surface were in danger of running into each other or other airport vehicles. AMASS, an enhancement to the basic airport surface detection radar called ASDE-3, was scheduled to be commissioned at 34 sites by the end of 2002. (See June 14, 2000; May 29, 2001.)

July 19, 2000: Department of Transportation Rodney Slater announced that FAA had awarded contracts to purchase additional certified explosives detection systems and trace explosives devices for the nation's airports, and would begin purchasing X-ray machines with new imaging software to improve screener performance. The Threat Image Projection (TIP) system projected digital images of hundreds of different guns, knives, and bombs onto the X-ray displays to test screeners' abilities to detect threat objects. TIP would project the images at random into real carry-on bags going through the X-ray or inside bag images created by TIP. When a screener hit the button to stop the suspect bag, TIP flashed a "congratulations" for detecting the threat and recorded the screener's performance. It also recorded missed threat images. (See May 19, 2000; July 27, 2000.)

July 27, 2000: For the first time, general aviation aircraft could obtain cockpit displays of digital weather graphics and text through a FAA-sponsored service called the flight information service data link. This service provided basic text weather information directly to general aviation pilots if the aircraft had the necessary avionics. Using a small display in the cockpit, flight crews could receive basic text messages, including aviation routine weather reports, special aviation reports, terminal area forecasts, significant meteorological information (SIGMET), convective SIGMETs, airman's meteorological information, pilot reports, and severe weather forecast alerts issued by FAA or the National Weather Service.

July 27, 2000: Armed with a gun, Aaron Amartei Commey tried to take hostages, at John F. Kennedy International Airport, on a National Airlines Boeing 757 headed for Las Vegas, Nevada. He demanded to be taken to Miami, Antarctica, or Argentina, and to speak to the Argentinean ambassador, Guillermo McGough. Negotiators from the FBI, New York's Port Authority, and the New York Police Department joined forces to persuade Commey to release the pilot and then the co-pilot. Passengers and crew had escaped from the plane when Commey was in the cockpit. Some of the 143 passengers aboard the flight to Las Vegas and Los Angeles exited by using an emergency chute that flight attendants deployed. *July 29*, a federal magistrate charged Commey, who authorities said had been planning for months to take over a plane, with one count of air piracy and ordered him held for psychiatric evaluation. (See July 19, 2000; July 17, 2001.)

July 2000: FAA expanded the scope of its Accountability Board. In addition to dealing with allegations of sexual harassment, it would start to rule on allegations of harassment based on race, color, religion, gender, sexual orientation, national origin, age, or disability as well as other misconduct that might create a hostile work environment. (See July 1998.)

July 2000: FAA completed the Common ARTS (Automated Radar Terminal System) program with the commissioning of the Huntington, West Virginia, site. Common ARTS was now fully operational at all 133 ARTS IIE sites and five ARTS IIIIE sites. Besides providing upgraded equipment, the other major benefit of the common ARTS program was that, regardless of location, it allowed all ARTS systems to share a common software

baseline that could be adapted to the size and complexity of a facility. These innovations facilitated the standardization of procedures, training, and logistics support.

August 1, 2000: An interim final rule went into effect requiring aircraft operators to pay fees for air traffic control services provided to aircraft that operated in U.S. airspace, but did not take off or land in the United States. The Federal Aviation Reauthorization Act of 1996 provided FAA the authority to charge fees to aircraft conducting U.S. overflights. (See June 5, 2000; August 20, 2001.)

August 16, 2000: British Airways grounded its fleet of Concorde supersonic jetliners a month after an Air France Concorde crashed outside Paris, raising safety concerns about all of these planes. Air France suspended its Concorde flights immediately after this crash, the first in the Concorde's 24 years of commercial service, killed 113 people. British Airways, the only other airline that operated the jets, canceled flights for a day after the accident, but then resumed them, saying it had conducted thorough checks and was confident of the safety of its fleet of these aircraft. British Airways grounded its fleet again, however, after receiving formal word that French and British aviation regulators intended to revoke the certificates of airworthiness for all Concorde.

August 21, 2000: FAA issued an AD reducing the time required for previously ordered inspections of General Electric (GE) CF-6 engines. The high-pressure compressor in an aircraft engine compresses the incoming air and speeds it up before it enters the combustion chamber to mix with fuel. Cracking in this compressor could cause an uncontained engine failure. FAA had previously ordered operators of aircraft with CF-6 engines to begin inspections effective January 28, 2000. After analyzing an uncontained engine failure experienced by a Varig Brasil Airlines Boeing 767 on June 7, 2000, FAA decreased the time airlines had to complete their initial inspections.

August 24, 2000: After a successful 21-day stability test of the Wide Area Augmentation System signal in space, FAA declared the system immediately available for some aviation and all non-aviation uses. WAAS improved the position signal to augment the Global Positioning System. The test demonstrated that the system could operate without interruption, providing a stable and reliable signal. The system delivered one to two meters horizontal accuracy and two to three meters vertical accuracy throughout the contiguous United States. Raytheon operated the system for FAA on a continuous basis, interrupting it only as necessary to upgrade or test the system. (April 6-9, 1999; April 10, 2001.)

August 25, 2000: FAA ordered an inspection of Boeing 767 aircraft to detect possible defects of the shear rivets on the elevator bellcrank assemblies attached to a hydraulic power control actuator at the rear of the plane. Failed shear rivets on two or more bellcrank assemblies could have produced abnormal elevator movements and affected control of the aircraft.

September 8, 2000: FAA issued a notice of proposed rulemaking that would incorporate a new flame propagation standard into regulations applicable to new transport category

aircraft. Newly type certified airplanes and newly manufactured airplanes entering service three years after the effective date of the regulation would be required to comply. (See May 25, 2000; September 2, 2003.)

September 14, 2000: Following a year-long analysis, FAA announced a range of initiatives affecting the Boeing 737 rudder system. Near-term initiatives involved changes in operations and maintenance; however, long-term, FAA planned to initiate rulemaking to mandate the redesign of the entire system. (See May 3, 1999; October 26, 2000.)

September 19, 2000: Department of Transportation announced the swearing in of the first seven members of the FAA Management Advisory Council. This body, established by the FAA Reauthorization Act of 1996, would provide advice and counsel to the FAA Administrator on policy, spending, funding, and regulatory matters affecting the aviation industry. It would consist of 18 members. The president would appoint ten members, representing aviation interests. Five members, appointed by the Department of Transportation Secretary, would serve as a subcommittee, with emphasis on air traffic services. There also would be one designee each from the Department of Transportation, the Department of Defense, and an air traffic services union. The first members included: J. Randolph Babbitt, former president of Air Line Pilots Association; Robert W. Baker, vice-chairman of AMR Corp.; Edward M. Bolen, president of General Aviation Manufacturers Association; Geoffrey T. Crowley, president and CEO of Air Wisconsin; Robert A. Davis, former Boeing vice president; Deborah Branson, private attorney; and Kendall W. Wilson, private financial analyst. Initially, advisory council members would serve from one- to three-year terms. Subsequent appointments would be for three years. (See September 30, 1996.)

September 20, 2000: FAA issued a press release apologizing for an incident on July 17 when passengers were inconvenienced because of actions of a small number of controllers in the Chicago terminal radar control (TRACON) facility. FAA proposed penalties ranging from letters of reprimand to 30-day suspensions for 15 air traffic controllers in the facility following an investigation that indicated there was an intentional slowing of traffic into the Chicago area. Additionally, FAA announced that it would change the management team at the TRACON in Elgin, Illinois, to foster a new workplace environment. The investigation, conducted by FAA with the assistance of the Department of Transportation Inspector General revealed no safety related incidents during the period when traffic was slowed.

September 22, 2000: FAA announced that April 1, 2001, would be the earliest start date for new \$4.00 and \$4.50 passenger facility charge (PFC) levels. The April 1 date, however, did not preclude airports from immediately submitting PFC applications. The new PFC levels were authorized under the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century. Previously, the highest PFC was \$3.00.

October 5, 2000: Runway 7R/25L opened at Phoenix Sky Harbor International Airport.

October 16, 2000: A Cessna 335, carrying Missouri Governor Mel Carnahan, his aide, and piloted by his son, crashed ten miles northwest of Hillsboro, Missouri. All three persons on the aircraft died in the crash.

October 19, 2000: FAA issued a final rule that established a specific licensing and safety requirement for operating a commercial space launch site, whether the site was located on or off a federal launch range. The regulation outlined who must obtain a commercial launch site operator's license, set application requirements, and delineated licensee responsibilities. The rule followed and built upon prior rulemakings that governed operation of reusable launch vehicles (RLVs) and reentry and recovery of RLVs and reentry vehicles, as well as a companion rule covering the financial responsibility requirements, such as insurance, for licensed reentry activities. As a set, the three rules completed the process of establishing FAA's regulatory oversight authorized by congressional legislation passed in 1998 that gave FAA responsibility for licensing and regulating reentry of returning space vehicles and reentry sites. Previously, the Commercial Space Launch Act had provided authority only over the launching of commercial launch vehicles, not their return to Earth. The expanded authority was needed to bring the return under the safety regulatory regime of FAA. (See November 9, 1999; November 28, 2000.)

October 24, 2000: FAA awarded a contract to Sensis Corporation to develop the Airport Surface Detection Equipment, version X (ASDE-X), a traffic management system that provides seamless coverage of the airport surface, as well as aircraft identification, to air traffic controllers. ASDE-X uses a combination of surface movement radar, transponder multilateration, and sensors to display aircraft position labeled with flight call-signs on air traffic control tower displays. (See June 14, 2000; February 29, 2004.)

October 26, 2000: FAA issued an airworthiness directive, mandating use of a simplified procedure in the event that the rudder of a Boeing 737 was to jam or become significantly restricted in its movement. (See September 14, 2000; November 13, 2001.)

October 26-28, 2000: In conjunction with the Cargo Airline Association, FAA tested the ability of Automatic Dependent Surveillance — Broadcast (ADS-B) and global positioning system (GPS) technologies to improve flight safety while increasing the capacity at hub airports in Louisville, Kentucky. ADS-B, a situational awareness tool, shares the controller's level of information with the pilot so the controller and pilot could work together to manage traffic more efficiently. (See July 10, 1999; January 1, 2001.)

November 28, 2000: FAA proposed a new process for obtaining a license to operate an expendable space launch vehicle. Through this rulemaking, FAA proposed to update and streamline its license application process for launches from U.S. territory or by U.S. citizens elsewhere. The agency planned to codify the safety requirements for launch operators regarding license requirements, criteria, and responsibilities to protect the public from the hazards of such launches. These safety requirements would apply to all licensed launches of expendable launch vehicles, whether from a federal launch site or a non-federal launch site. (See October 19, 2000; February 9, 2001.)

December 7, 2000: President Clinton announced three actions to reduce airline delays and improve air travel for America: the release of an executive order directing FAA to create a performance-based organization to focus solely on efficient operation of the air traffic control system; the appointment of a group of business and labor leaders from outside of the aviation industry to serve as a board of directors for this new organization; and a review of impediments to congestion pricing at airports. The president also called on Congress to reform the way air traffic control services were financed. (See April 23, 2000; June 10, 2003.)

December 12, 2000: FAA announced that a team of experts would conduct a one-year study of the safety processes used in certifying large transport airplanes, as well as FAA's support of continued airplane safety. The commercial airplane certification process study would include all of the safety processes used to design, build, and certify airplanes, as well as those involved in maintaining safety throughout operational service. Beginning in January 2001, the team would assess current safety processes and practices, and identify areas for improvement. Led by FAA, the team consisted of technical experts from the agency, NTSB, NASA, Department of Defense, foreign civil aviation authorities, industry, and academia.

## 2001

January 1, 2001: As part of FAA-industry Capstone partnership, FAA began the first use of ADS-B technology to track and service traffic near Bethel, Alaska – an area that had no radar coverage. The new system used ground-based transceivers to pick up transmissions from aircraft equipped with ADS-B. The information was then transmitted via phone line and satellite to the Anchorage Air Route Traffic Control Center, where it was displayed electronically to controllers. (See October 26-28, 2000; April 1, 2002.)

January 17, 2001: FAA and the National Air Traffic Controllers Association (NATCA) signed an understanding covering operational errors and operational deviations (OE/D). Under this agreement, failures to maintain 80 percent separation minima would be recorded as technical violations and maintained in the employee's training folder. FAA and NATCA would, however, immediately cancel the revocation or suspension of control tower operator licenses and facility ratings in addressing performance deficiencies. After twelve months, any information which could lead to the identification of an employee – whether causal or contributory to a technical violation – would be discarded. No controller would be decertified or forced to complete remedial training for a technical violation, and all controllers would have to attend refresher training annually. The agreement, which would be reviewed at six-month intervals, also called for quarterly meetings at the national level to address quality assurance. In addition, FAA and NATCA agreed to work together, no later than April 30, to develop and implement a classification system of OE/Ds based upon risk assessment.

January 20, 2001: George W. Bush became the forty-third President of the United States.



January 25, 2001: Former Member of Congress Norman Y. Mineta (D-CA) took the oath of office as the nation's fourteenth Secretary of Transportation. The lone Democrat in George W. Bush's cabinet, Mineta, age sixty-nine, had been Secretary of Commerce in the outgoing Clinton Administration, and was the first Asian Pacific American to hold this Cabinet-rank post. (See July 7, 2006.)

January 2001: FAA Administrator Jane Garvey established the terminal business service. The new organization consolidated funding, personnel, planning, and processes in a single organization to provide integrated terminal air traffic control capabilities.

February 9, 2001: Effective this date, FAA amended the procedures for assessment and adjudication of civil penalties in space transportation. Previous regulations provided little guidance for the FAA in the prosecution of civil penalties. The new rules provided more detail on the procedures FAA must use to assess civil penalties and on the respondents' rights to adjudication. The rules also provided more detailed procedures to be used in the adjudication. (See November 28, 2000; April 3, 2002.)

March 19, 2001: FAA announced that U.S. airlines had complied with the deadline to retrofit commercial airplanes with both fire detection and suppression systems. Most wide-body passenger airplanes already had fire detection and suppression systems in inaccessible cargo compartments. FAA's February 1998, final rule required that the remainder of the passenger fleet be retrofitted within three years. In addition, approximately 300 all-cargo airplanes were required to have detection systems and means to shut off airflow to the cargo compartment. (See February 12, 1998.)

April 1, 2001: Thirty-one airports were the first to be permitted to begin collecting Passenger Facility Charges (PFC) at a \$4.50 level. Since that date, an additional 259 airports have collected at a \$4.50 PFC level.

April 10, 2001: FAA announced its agreement with recommendations in the Wide Area Augmentation System (WAAS) Independent Review Board (IRB) report issued earlier in the month. Chartered by the FAA, the IRB said its technical review showed that WAAS would actually work better than the FAA had previously estimated and, when fielded, would likely provide significant additional aviation safety. The board, which met from August to December of 2000, recommended that FAA remain fully committed to the evolution of WAAS, and concluded that national WAAS capability could be achieved with the FAA's renewed leadership, action, and commitment. It further stated that WAAS had enormous benefits for all global positioning system (GPS) users. (See August 24, 2000; July 11, 2003.)

April 12, 2001: FAA issued a rule, effective May 12, 2004, requiring air carrier operators to carry automated external defibrillators on large, passenger-carrying aircraft and augment currently required emergency medical kits. The new rule affected those air carrier operations for which at least one flight attendant was required and provided the option of treating serious medical events during flight time. (See May 24, 2000.)

April 25, 2001: FAA dedicated the first version of its Weather Systems Processor (WSP) at a ceremony held at Albuquerque International Sunport, a facility that had been closely tied to development of the system. The WSP was designed to provide information to controllers and pilots about potentially hazardous microburst and wind shear weather events. The system improved the management of air traffic in air space near the airport by forecasting gust front-induced wind shifts, detecting precipitation, and tracking storms. The new processor was deployed at airports that did not qualify for the more sophisticated Terminal Doppler Weather Radar (TDWR) or as interim measures at airports where TDWR was scheduled for deployment later. WSP went on line at four other sites at the same time as the Albuquerque dedication: Austin, Texas; Norfolk, Virginia; the FAA Academy (training); and the Technical Center (testing and support). (See September 24, 1998.)

April 27, 2001: FAA prohibited U.S. operators of Boeing 737 aircraft from running center wing tank fuel pumps unless the quantity of fuel exceeded a specified minimum level. The Airworthiness Directive was one of many FAA initiatives to enhance fuel tank safety. (See February 22, 2000; May 7, 2001.)

May 3, 2001: FAA began providing a new service that used wireless devices to inform the public of aviation delays. Travelers with access to with pagers, cell phones, or personal digital assistants (PDA), could subscribe and obtain real-time airport status information via e-mail.

May 7, 2001: FAA issued a rule that required airplane manufacturers and operators to change how airplane fuel tanks were designed, maintained and operated. The rule included a special federal aviation regulation (SFAR) to minimize the potential for failures that could cause ignition sources in fuel tanks on new and existing airplanes. It also included a regulation that, for the first time, mandated airplane design changes to minimize the flammability of fuel tanks on new airplanes. Manufacturers had 18 months from June 6, the effective date of the rule, to conduct the safety reviews and develop required maintenance and inspection programs. Operators had 36 months from June 6 to incorporate a FAA-approved maintenance and inspection program into their operating procedures. (See April 27, 2001; June 6, 2001.)

May 23, 2001: FAA ordered operators of DC-9/MD-88 series and MD-90-30 series aircraft to inspect the wiring of small static port heaters for chafing, loose connections, and evidence of arcing, and to make necessary repairs. These heaters keep ice from forming on devices that measure air pressure. Operators had to determine if the surrounding insulation were covered with metalized Mylar (polyethyleneterephthalate). If so, the Mylar had to be removed and/or replaced with Tedlar-covered insulation, or other appropriate action had to be taken. The airworthiness directive came in response to an incident that occurred on September 17, 1999, in which a Delta Air Lines MD-88 experienced a fire in the forward cargo compartment shortly after takeoff from Northern Kentucky International Airport in Covington, Kentucky.

May 24, 2001: FAA provided Congress a report on ways to expedite environmental reviews of runway projects, including establishing special teams of experts, reducing

paperwork, and improving coordination between federal and local officials. The agency proposed strengthening environmental impact statement (EIS) teams by adding more FAA members, asking airport proprietors to contribute members, and putting more consultants on the teams. FAA also suggested increasing FAA environmental specialist and environmental attorney resources. FAA also planned to develop a reimbursable agreement for airports interested in paying for extra staff for expedited EIS reviews.

May 24, 2001: FAA announced it had selected a group headed by Lockheed Martin to undertake the Advanced Technologies and Oceanic Procedures (ATOP) project. Once installed, the new ATOP technology would give controllers the ability to reduce separation between aircraft on oceanic routes, and would give pilots greater flexibility to choose their own routes. (See June 30, 2004.)

May 29, 2001: FAA announced it would begin using an alert warning system at the country's 34 busiest airports to help prevent runway accidents. Already in use at San Francisco and Detroit, the Airport Movement Area Safety System (AMASS) provided air traffic controllers with visual and aural alerts of potential runway accidents caused by runway incursions. AMASS was an enhancement to the ASDE-3 (airport surface detection equipment) radar that processed surveillance data from the ASDE-3 and the terminal automation system. It then determined conflicts based on the position, velocity, and acceleration of airborne arrival aircraft with ground-based aircraft and vehicles. (See July 15, 2000; August 14, 2001.)

June 6, 2001: FAA required design approval holders of certain turbine-powered transport category airplanes, and of any subsequent modifications to those airplanes, to substantiate that the design of the fuel tank system precluded the existence of ignition sources within the airplane fuel tanks. The new rule also required the development and implementation of maintenance and inspection instructions to assure fuel tank safety. For new type designs, the manufacturer had to identify safety-critical maintenance actions and incorporate a means either to minimize development of flammable vapors in fuel tanks or to prevent catastrophic damage if ignition did occur. These actions were based on accident investigations and adverse service experience, both of which had shown that unforeseen failure modes and lack of specific maintenance procedures on certain airplane fuel tank systems might result in degradation of design safety features intended to preclude ignition of vapors within the fuel tank. (See May 7, 2001; November 23, 2002.)

June 7, 2001: FAA unveiled a plan that addressed the growing gap between demand and capacity in the air transportation system. The plan integrated and aligned agency activities with those of the aviation industry and users of the system. The Operational Evolution Plan (OEP) focused on maintaining safety, increasing capacity, and managing delays. The plan identified specific tasks to be accomplished in the near-term (2001 and 2002), mid-term (2002 to 2004), and long-term (2005 to 2010). FAA and industry considered the OEP an evolving document that would be modified, particularly to incorporate new technologies as they emerged. (See June 2007.)

June 11, 2001: FAA awarded a \$125 million dollar contract to Lockheed Martin Corp., to develop and field the En Route Communications Gateway (ECG). This new gateway for processing radar data would reduce system outages and thereby both increase safety margins and reduce maintenance requirements. ECG would replace the Peripheral Adapter Module Replacement Item (PAMRI) program. The system would be installed at twenty-one air route traffic control centers, the FAA Academy in Oklahoma City, and the William J. Hughes Technical Center in Atlantic City, New Jersey. The Seattle Air Route Traffic Control Center was the first site scheduled for installation of the new system. FAA expected the system to become operational in the summer of 2003. The last site would be fielded in mid-2005. (See December 7, 2005.)

June 25, 2001: FAA issued a final rule to protect from disclosure voluntarily provided information that aids the agency in improving safety and security. The rule particularly encouraged data sharing programs, such as Flight Operational Quality Assurance, which used state-of-the-art flight data recorder technology to collect and analyze data on routine flights. FAA had been using data collected in this fashion to identify industry-wide safety trends and to target more effectively resources and correct potential safety problems. The rule took effect on July 25. (See June 30, 2000; October 30, 2001.)

June 30, 2001: Mayor Richard Daley announced his proposal for reducing delays and congestion at O'Hare International Airport. Highlights of the proposal included the addition of one new runway and the relocation of three of the current seven runways. According to the city's estimates, making these changes would reduce delays related to poor weather by 95 percent and overall delays by 79 percent.

July 11, 2001: In a report to Congress, FAA's new Management Advisory Council (MAC) concluded that the agency's rulemaking process was inefficient, lacked credibility, and unless fixed, would erode the safety, security, and efficiency of the aviation system. The MAC, however, was only one of a number of groups that had recently faulted FAA's rulemaking process. GAO, the Aeronautical Repair Station Association, and organized labor echoed the MAC's findings. The MAC found that FAA took an average of five years to complete rules, and, at its current pace, would not be able to finish all of the rules currently being developed for 15 years. It also criticized FAA's cost/benefit analyses, inadequate staffing and management accountability within FAA, and inefficiencies in the Aviation Rulemaking Advisory Committee process.

July 17, 2001: FAA released final rules on airport and aircraft security, as recommended by the White House Commission on Aviation Safety and Security following the 1996 crash of TWA 800. (See July 27, 2000; September 11, 2001.)

July 31, 2001: FAA awarded a contract to ITT Industries Aerospace/Communications Division, of Ft. Wayne, Indiana, to provide the agency with multi-mode VHF digital air-to-ground radios. The contract was for an initial \$20.5 million and would be worth as much as \$580 million if all options were exercised. ITT Industries partnered with Park Air Systems, Federal Data Corp., and Operational Technologies Services, Inc., to provide the equipment. This first building block of the Next Generation Air/Ground Communications (NEXCOM) system would, in phases, replace air traffic controllers'

aging analog radios with digital radios. When completed, the entirely digital system would enhance the FAA's ability to meet expanding air traffic control communication demands. (See February 22, 2002.)

August 14, 2001: Representative John Mica (R-FL), chairman of the House aviation subcommittee, criticized FAA for delaying deployment of the airport movement area safety system (AMASS). Mica said the program was six years behind schedule. (See May 29, 2001.)

August 16, 2001: FAA unveiled a new initiative designed to enhance the continued safety of aircraft wiring systems from their design and installation through their retirement. FAA based its Enhanced Airworthiness Program for Airplane Systems (EAPAS) on results from an intensive data-gathering effort on aircraft wiring systems done in cooperation with industry. EAPAS combined a variety of near- and longer-term actions into a plan to increase awareness of wiring system degradation, implement improved procedures for wiring maintenance and design, and spread that information throughout the aviation community. FAA's overall aging transport non-structural systems program, an effort begun in October 1998, was an expansion of the agency's aging aircraft program. (See October 1, 1998; May 22, 1999; October 6, 2005.)

August 20, 2001: A final FAA rule, effective this date, lowered the overflight fees the agency charged carriers for air traffic and related services incurred by certain aircraft that transit U.S.-controlled airspace but neither take off from, nor land in, the United States. The new rule reduced the fees that had been established by an interim final rule that had gone into effect on August 1, 2000, and allowed FAA to continue to charge fees as required by law. FAA rulemaking efforts to impose statutorily required fees had been repeatedly challenged in court. The most recent challenge had stemmed from an opinion of the U.S. Court of Appeals for the District of Columbia Circuit, issued on July 13, 2001, which stated: "Because FAA has failed to articulate the basis for its conclusions that 'the unit costs of providing [air traffic control] services to overflights within each environment [are] identical to the unit costs of providing [air traffic control] services to all air traffic within each environment,' we vacate the 2000 Rule and remand to the FAA for further proceedings consistent with this opinion." (See August 1, 2000; June 21, 2002.)

September 11, 2001: Nineteen radical Islamic extremists with the group al Qaeda penetrated security at three major airports, seized four U.S. domestic airliners, and turned them into missiles that destroyed the World Trade Center in New York City, and damaged the Pentagon in Arlington, Virginia, killing thousands. Passengers on one of the planes fought the hijackers causing the plane to crash in a Pennsylvania field, killing all on board. For the first time in history, FAA put a ground stop on all U.S. air traffic. Related details follow:

#### Eastern Standard Time

- 7:59 a.m.: American Airlines Flight 11, a Boeing 767 with 92 people on board, takes off from Boston Logan airport for Los Angeles.

- 8:14 a.m.: United Air Lines Flight 175, a Boeing 767 with 65 people on board, takes off from Boston Logan airport for Los Angeles.
- 8:20 a.m.: American Airlines Flight 77, a Boeing 757 with 64 people on board, takes off from Washington Dulles airport for Los Angeles.
- 8:38 a.m.: FAA notifies the North American Aerospace Defense Command's (NORAD) Northeast Air Defense Sector about the suspected hijacking of American Flight 11.
- 8:42 a.m.: United Air Lines Flight 93, a Boeing 757 with 44 people on board, takes off from Newark airport for San Francisco.
- 8:46 a.m.: American Flight 11 crashes into the north tower of the World Trade Center.
- 9:03 a.m. (approx.): United Flight 175 crashes into the south tower of the World Trade Center.
- 9:04 a.m.: FAA's Boston Air Route Traffic Control Center stops all departures from airports in its jurisdiction (New England and eastern New York State).
- 9:06 a.m.: FAA bans takeoffs of all flights bound to or through the airspace of New York Center from airports in that air route traffic control center and the three adjacent air route traffic control centers – Boston, Cleveland and Washington. This is referred to as a first tier ground stop and covers the Northeast from North Carolina north and as far west as eastern Michigan.
- 9:08 a.m.: FAA bans all takeoffs nationwide for flights going to or through New York Center airspace.
- 9:15 a.m.: FAA (New York Center) notifies NORAD's Northeast Air Defense Sector that United Airlines 175 was the second aircraft that crashed into the World Trade Center.
- 9:25 a.m.: FAA bans takeoffs of all civilian aircraft regardless of destination – a national ground stop.
- 9:37 a.m.: American Flight 77 crashes into the Pentagon.
- 9:45 a.m.: In the first unplanned shutdown of U. S. airspace, FAA orders all aircraft to land at the nearest airport as soon as practical. At this time, there were more than 4,500 aircraft in the air on instrument flight rules (IFR) flight plans.
- 10:03 a.m.: United Flight 93 crashes in Stony Creek Township, Pennsylvania.
- 10:39 a.m.: Reaffirming the earlier order, FAA issues a notice to airmen (NOTAM) that halts takeoffs and landings at all airports.
- 12:15 p.m.: The airspace over the 48 contiguous states is clear of all commercial and private flights.
- 2:30 p.m.: FAA announces there will be no U.S. air traffic until noon Eastern Standard Time Wednesday at the earliest. (See July 17, 2001; September 12, 2001.)

September 12, 2001: Department of Transportation Secretary Norman Mineta announced FAA would allow a limited reopening of the nation's commercial airspace system to allow flights diverted the day before to continue to their original destinations. The Secretary announced FAA was temporarily extending the ground stop order imposed the previous day, while it initiated additional security measures. Mineta said FAA would permit flights only in special limited circumstances. Flights diverted as a result of

yesterday's ground stop would be allowed to continue to their original destination under vastly tightened security guidelines. Only passengers on the original flights would be allowed to re-board, and only after airports and airlines had implemented strict screening measures. Mineta said a variety of stepped-up security measures would be instituted at the airports once they re-opened. Those measures included:

- A thorough search and security check of all airplanes and airports before passengers were allowed to enter and board aircraft.
- Discontinuance of curbside check-in at the airport.
- Discontinuance of off-airport check-in.
- Only ticketed passengers would be allowed to proceed past airport screeners to catch their flights.
- Vehicles near airport terminals would be monitored more closely. (See September 11, 2001; September 14, 2001.)

September 14, 2001: Department of Transportation Secretary Norman Mineta approved restoration of the next phase of national air service, allowing certain general aviation flights back into the air effective at 4:00 p.m. General aviation was allowed to resume flights operating under Instrument Flight Rules, or IFR. Temporarily, however, general aviation flights would not be allowed to fly within 25 nautical miles of New York City and Washington, DC. Those restrictions would be kept in place until further notice as officials continued to assess the recovery situation in those cities over the near term. *September 19*, FAA lifted most restrictions of general aviation (Part 91) visual flight rules operations, or VFR, flights. VFR flights were now permitted for U.S. registered aircraft outside of enhanced Class B airspace, or airspace within a 30-mile radius of 30 major U.S. airports. FAA kept restrictions on the following flying activities (except in Hawaii): civil aircraft VFR flight training operations; VFR operations for banner towing; news reporting; traffic watch; airship/blimps; and Part 91 sightseeing. AA also restricted flying of any kind within 3000 feet altitude and three nautical miles of major sporting events or large open-air gatherings of people, such as football and baseball stadiums, race tracks, and concerts. (See September 12, 2001; September 23, 2001.)

September 23, 2001: As a result of national security concerns, FAA, in conjunction with other federal agencies, issued a notice to airmen (NOTAM) banning Part 137 (agricultural/crop-duster flights) from operating. In addition, no aircraft capable of or equipped for agriculture operations could operate during the ban. (See September 14, 2001; September 27, 2001.)

September 27, 2001: In a speech at Chicago's O'Hare airport, President Bush announced three measures to enhance aviation safety and security. First, he would continue to expand the air marshal program and seek Congressional approval to make this expansion permanent. Second, he would ensure that, effective October 1, a fund of \$500 million would be established to finance aircraft modifications to delay or deny access to the cockpit. Thirdly, he would work with Congress to put the Federal Government in charge of airport security and screening services. The president said that fully implementing the extensive security proposal might take four to six months. Meantime, to ensure that every airport has a strong security presence, he asked the governors of all 50 states to call up

the National Guard – at the Federal Government’s expense – to augment existing security staff at every commercial airport nationwide. FAA would provide the necessary training for the National Guard personnel. (See September 23, 2001; September 27, 2001.)

September 27, 2001: FAA announced it was launching a nationwide search for personnel to join the air marshal program. FAA was training agents from other federal agencies, including the Customs Service, the Secret Service, the Immigration and Naturalization Service, and the Bureau of Alcohol, Tobacco and Firearms. Already-experienced law enforcement officials were being schooled on handling warfare in a confined space aboard a jet. (See September 23, 2001; September 28, 2001.)

September 28, 2001: FAA alerted civilian pilots of their responsibility to avoid restricted airspace and the procedures to follow if intercepted, in light of a Department of Defense announcement that pilots near or in restricted or prohibited airspace faced a forced landing, or as a last resort, use of deadly force by military aircraft. New security decisions required that additional airspace be barred to civilian aircraft. FAA anticipated announcing new restricted and prohibited areas throughout the United States. This additional airspace would be over areas that require protection for national security reasons. New and current restricted and prohibited areas would be revised periodically. (See September 27, 2001; October 4, 2001.)

September 28, 2001: FAA announced it was seeking industry input on its new En Route Automation Modernization (ERAM) program, which would replace the existing en route air traffic control automation system and selected en route infrastructure. FAA planned to pursue the award of a single ERAM System contract. Services to be provided under the contract included system engineering, system integration, system requirements analysis, system design/development, software design/development, system testing, infrastructure upgrades/enhancements, hardware and software replacements, system deployment, transition planning and support, training, maintenance, logistics support and life cycle support. FAA planned to incorporate any industry comments it deemed appropriate in the development of the final ERAM screening information request (SIR) #1 contract bid package planned for release in mid-October 2001. (See March 29, 2002.)

October 4, 2001: Reagan National Airport reopened for business, but under very tight security. Passengers had to undergo intense security screening and were limited to one carry-on bag and one personal item (a purse or briefcase). The first phase of the reopening included commercial flights by six airlines to the airports in Atlanta, Boston, Chicago O’Hare, Dallas/Ft. Worth, Minneapolis, Pittsburgh, New York (LaGuardia), and Newark. The six carriers were United, American, Delta, US Airways, Northwest, and Continental. (See September 28, 2001; October 13, 2001.)

October 13, 2001: Joint teams comprised of officials from FAA and Department of Transportation Inspector General began auditing background checks of Argenbright Security, Inc., employees at 13 U.S. airports. Recent FAA audits of Argenbright found background check violations at these airports. The action followed a petition filed by Assistant U.S. Attorney John Pease on Thursday, October 11, with the U.S. District Court



in Philadelphia that ordered Argenbright officials to answer charges that they continued to violate a probation agreement regarding the hiring of screeners without first performing appropriate background checks or providing training. In the following weeks, separate FAA teams began auditing background checks of all U.S. airport security screeners, starting with those employed at the nation's 20 largest airports. The initial 13 airports were: Boston Logan International, Port Columbus International (Columbus, Ohio), Eastern Iowa (Cedar Rapids, Iowa), Dallas/Fort Worth International, Detroit Metro Wayne County, Las Vegas McCarran International, Los Angeles International, Nashville International, New York LaGuardia, Phoenix Sky Harbor International, Seattle-Tacoma International, Trenton-Mercer and Washington Dulles International. Future background checks would be audited to make sure screeners were properly hired according to FAA standards. (See October 4, 2001; October 18, 2001.)

October 18, 2001: Department of Transportation Secretary Norman Mineta announced that beginning the following Friday, October 26, flights at Reagan National Airport would be expanded to include 18 more cities, bringing to 26 the number of cities served by the airport after the president authorized its reopening. (See October 13, 2001; November 19, 2001.)

October 23, 2001: The National Transportation Safety Board issued its findings on the crash of an American Airlines MD-82 during landing at Little Rock airport in 1999. The Board determined the probable cause of the accident was the flight crew's failure to discontinue the approach when severe thunderstorms and their associated hazards to flight operations had moved into the airport area, and the flight crew's failure to ensure that the spoilers had extended after touchdown. Contributing to the accident was the flight crew's impaired performance resulting from fatigue and the situational stress associated with the intent to land under the circumstances, continuation of the approach to a landing when the airline company's maximum crosswind component was exceeded, and use of reverse thrust greater than 1.3 engine pressure ratio after landing. The accident occurred on June 1, 1999, as the flight was arriving from Dallas/Fort Worth with 139 passengers and six crewmembers on board. The aircraft overran the runway, passed through a chain link fence, went down an embankment and collided with a structure supporting the runway lighting system. The captain and 10 passengers were killed; over 100 others were injured. As a result of the investigation, the Board made 22 new recommendations to FAA and two to the National Weather Service. (See June 3, 1999.)

October 30, 2001: FAA issued a rule that protected the data collected under airline FOQA programs from FAA enforcement action, except in criminal or deliberate cases. A FAA rule issued on June 25 protected voluntarily provided information from disclosure to encourage data-sharing programs such as Flight Operational Quality Assurance (FOQA). The rule responded to a mandate from Congress to protect information that aided in improving safety and security. It also responded to recommendations made by the 1997 National Civil Aviation Review Commission, chaired by Norman Mineta. November 30, effective this date, FAA codified enforcement protection for FOQA programs. The agency would not use an operator's FOQA data, or even aggregate FOQA data, in any enforcement action against the operator or its employees when the

information was obtained from an FOQA program approved by the Administrator. Criminal or deliberate acts would not be protected by this ruling. The rule required air carriers participating in approved FOQA programs to submit aggregated FOQA data to the FAA for use in monitoring safety trends. (See June 25, 2001.)

November 12, 2001: American Airlines Flight 587 exploded over Queens, New York shortly taking off from John F. Kennedy International Airport. All 260 people aboard the plane and five people on the ground were killed. Some witnesses reported that a burning engine fell from the sky before the aircraft did, and others described a midair explosion. The wreckage fell in three places. One cylindrical piece, resembling an engine housing, fell onto a Texaco station, where it landed six feet from the fuel pumps. Most of the fuselage cratered into an intersection, sending columns of dense black smoke aloft over leaping flames. The third element, a wing section, plunged into Jamaica Bay. (See November 16, 2001.)

November 13, 2001: FAA published a proposal to mandate installation of a new, improved rudder control system in all Boeing 737 models within five years. The proposed airworthiness directive would require Boeing 737 operators to install a new rudder system, currently being developed by Boeing, and make any additional changes to the aircraft needed to accommodate the new system, within five years of the AD effective date. The new design would increase the overall safety of the 737 by simplifying the rudder system and eliminating a range of previously known failure possibilities. The redesign also would make it unnecessary to have existing flight crew operating procedures and associated training unique to the 737 rudder system. (See October 26, 2000; October 7, 2002.)

November 14, 2001: FAA commissioned the last Automated Surface Observing System (ASOS) at New Haven, Connecticut, five months ahead of schedule, marking the completion of a nationwide push to establish 569 baseline systems, which started in November 1993 in Montrose, Colorado. ASOS provided current weather information on critical weather parameters, such as sky condition and visibility, temperature and dew point, pressure, wind speed, and direction. It also identified precipitation and its accumulation, thunderstorm reporting, and freezing rain accumulation.

November 15, 2001: FAA and the National Oceanic and Atmospheric Administration made a new tool available to convey advanced storm information to pilots. The National Convective Weather Forecast (NCWF) product, designed and developed by the National Center for Atmospheric Research in Boulder, Colorado, and MIT Lincoln Laboratory, in Lexington, Massachusetts, provided pilots with a plotted map depicting the current location of convective hazards and where they would be an hour later. Pilots, federal aviation weather briefers, air traffic control specialists, and airline dispatchers who routinely made operational decisions associated with thunderstorm hazards routinely were turning to the NCWF for essential information.

November 16, 2001: FAA issued an emergency airworthiness directive mandating an inspection of the vertical stabilizers and rudders on all Airbus A-300 and A-310 aircraft.

The inspections had to be completed within 15 days. In addition to the area where the structural failure in American 587 occurred, the inspections also were focused on the surrounding rudder components and attachment fittings. (See November 12, 2001.)

November 19, 2001: President George W. Bush signed into law the Aviation and Transportation Security Act (Public Law 107-71), which, among other things, called for the establishment of the Transportation Security Administration (TSA) in the Department of Transportation, to be responsible for security at airports. The act also broadened AIP eligibility to include costs for additional security-related activity required by law or the Secretary of Transportation. The period of eligibility for such projects was for FY 2002 and could include only those additional costs incurred from September 11, 2001, to September 30, 2002. *February 13, 2002*, TSA took over responsibility for aviation security from FAA. (See October 18, 2001; December 6, 2001.)

December 6, 2001: FAA required each airport operator and aircraft operator with a security program under part 107 or part 108, to conduct fingerprint-based criminal history record checks for individuals who had not already undergone such a check. The rule applied to those who either possess, or have applied for: unescorted access authority to the security identification display area of an airport; authority to authorize others to have unescorted access; and screening functions. (See November 19, 2001; December 20, 2001.)

December 10, 2001: FAA amended the list of airspace locations where Reduced Vertical Separation Minima (RVSM) could be applied to include the New York flight information region (FIR) portion of West Atlantic Route System airspace. RVSM procedures allowed vertical separation to be reduced between aircraft at certain higher altitudes if the aircraft met stringent altimeter and auto-pilot performance requirements. The rule also required any aircraft equipped with the Traffic Alert and Collision Avoidance System, version II (TCAS II) flying in RVSM airspace to incorporate a version of TCAS II compatible with RVSM operations. (See February 24, 2000; May 10, 2002.)

December 11, 2001: Runway 4L/22R opened at Detroit Metropolitan Wayne County Airport.

December 20, 2001: FAA decreased the no fly zone around Reagan National Airport. As a result of the change, Suburban Airport in Anne Arundel County, Freeway Airport in Prince George's County and Maryland Airport in Charles County, Maryland reopened for normal operations. (See December 6, 2001; January 5, 2002.)

December 27, 2001: Four FAA facilities in the Eastern Region – the New York TRACON, the New York, and Washington Air Route Traffic Control Centers, and the Philadelphia tower – implemented what was called the “Newark Chokepoint Flip/Flop” project. This involved switching flight paths and eliminating a crossover pattern affecting hundreds of aircraft daily to increase capacity.

December 2001: The Kansas City Air Route Traffic Control Center began daily use of the User Request Evaluation Tool (URET). The tool enabled controllers to see traffic 20 minutes into the future and allowed them to safely assign and grant pilot requests for more direct and more fuel efficient routes. The prototypes at the Memphis and Indianapolis Air Route Traffic Control Centers had been shown to save the airlines \$1.5 million per month based on an increase in direct routings of about 20 percent. (See September 30, 1999; January 26, 2002.)

## 2002

January 5, 2002: Fifteen-year-old Charles Bishop, a flight student, took off in a Cessna, leaving his instructor behind, and crashed the plane into the Bank of America Plaza in downtown Tampa, Florida. Bishop, the only fatality in the crash, ignored warnings from an intercepting Coast Guard helicopter to land. The crash rekindled the debate surrounding the security of general aviation, spurred another round of meetings among top security officials, and lead FAA to issue a Flight Standards Service notice proposing eleven recommendations for possible security enhancements around airports. The proposed enhancements included having separate ignition and door lock keys for aircraft, limiting student pilots' access to aircraft keys until they reached a specific point in the training curriculum, keeping student pilots under supervision of a flight instructor at all times, establishing positive identification of any student pilot before every flight lesson, and requiring a parent or legal guardian to co-sign enrollment applications for students who were not legal adults. Other recommendations called for aircraft owners to take appropriate steps to secure unattended aircraft. (See December 20, 2001; January 15, 2002.)

January 15, 2002: Effective this date, FAA mandated new standards to protect cockpits from intruders and the effects of small arms fire or fragmentation devices, such as grenades. The Aviation and Transportation Security Act authorized the FAA to issue the final rule, which required operators of more than 6,000 airplanes to install reinforced doors by April 9, 2003. The agency also issued a special federal aviation regulation (SFAR) requiring operators to install temporary internal locking devices within 45 days on all passenger airplanes and on airplanes equipped with cargo cockpit doors. *October 17*, FAA issued a series of SFARs that authorized short-term door reinforcement by providing airlines and cargo operators with temporary relief from certain FAA standards. The major U.S. airlines voluntarily installed short-term fixes to the cockpit doors of 4,000 aircraft in 32 days. The SFAR stated that a long-term fix that meets FAA requirements must be installed within 18 months. (See January 5, 2002; January 18, 2002.)

January 18, 2002: Effective this date, airlines had to inspect all checked baggage for explosives. (See January 15, 2002; February 13, 2002.)

January 26, 2002: FAA launched the User Request Evaluation Tool (URET), a software decision-support tool designed to aide controllers in providing direct routes to high altitude aircraft more quickly, at the Memphis Air Route Traffic Control Center. *January 27*, controllers began using URET at the Indianapolis Air Route Traffic Control Center

and on *January 30* at the Cleveland Air Route Traffic Control Center. With Kansas City center already up and running, four URET sites were then in service. (See December 2001; May 6, 2002.)

February 5, 2002: FAA proposed new certification requirements for light-sport aircraft, pilots, and repairmen. Previous FAA regulations had not addressed the sport pilot segment of general aviation. The proposal defined light-sport aircraft as simple, low-performance, low-energy aircraft that would be limited to:

- 1,232 lbs. maximum weight,
- Two occupants,
- A single engine (non-turbine),
- Stall speed of 39 knots,
- Maximum airspeed of 115 knots, and
- Fixed landing gear.

FAA also included two new categories in the sport aircraft proposal – weight-shift-control aircraft and powered parachutes. (See September 1, 2004.)

February 13, 2002: FAA issued an emergency rule enabling private flying to resume under new strict security procedures at three airports in suburban Maryland outside Washington, DC, which had been largely shut down since September 11, 2001. The reinstated airports were: College Park, Potomac, and Washington Executive/Hyde. (See January 18, 2002; February 17, 2002.)

February 17, 2002: Effective this date, formal responsibility for aviation security transferred from FAA to TSA. (See February 13, 2002; March 13, 2002.)

February 22, 2002: FAA announced establishment of government/industry agreements with three companies for the development of technology that would integrate digital voice and data into air/ground communications. Under the agreements, Rockwell Collins Commercial Systems, Honeywell Aerospace Electronic Systems, and Avidyne Corp. would develop VHF digital link mode-3 (VDL-3) avionics. The FAA would partially fund industry development of the airborne components of Next Generation Air/Ground Communications (NEXCOM) program, which would replace the ground radio system currently used for air traffic control communications with state-of-the-art digital technology. (See July 31, 2001; July 15, 2002.)

February 25, 2002: FAA announced pilots could now receive up-to-date weather information in the cockpit via VHF data link mode 2 (VDL-2) avionics that supported flight information services broadcast. Pilots of properly equipped aircraft could receive text messages, including routine and special weather reports, terminal area forecasts, and pilot reports issued by the FAA or the National Weather Service at no cost. They could also receive graphic products such as weather maps, and other flight information services products available through a subscription service.

February 28, 2002: The Department of Transportation Inspector General released an audit of FAA's progress in acquiring the Weather and Radar Processor (WARP), which would provide meteorologists and air traffic controllers more accurate and reliable information to lessen the effects of bad weather. The IG found that FAA had experienced significant problems managing the development and deployment of WARP on controller displays – mostly because of human factors and technical problems. He also found the program's current cost baseline was not realistic and the schedule was at risk. Since 1995, estimated program costs had increased from \$227.8 million to \$276.8 million. (See March 2002.)

March 13, 2002: Department of Transportation Secretary Norman Mineta announced that flight operations at Washington's Ronald Reagan National Airport would be authorized to return to their pre-September 11, 2001, capacity by April 15, completing full restoration of the nation's commercial aviation system. Since the airport reopened on October 4, 2001, the facility had been returning in phases to full capacity, giving the Federal Government and local authorities a chance to implement enhanced security measures at all airports serving Reagan National. During the first phase of restored flights, service was allowed to eight cities. Phase 2, which had begun October 26, permitted service to an additional 18 cities. Phase 3, carried out in three stages, began January 2 with incremental increases on February 1 and March 1. Service to a total of 43 additional cities was restored during phase 3, during which approximately 620 daily flights were operated at the airport – 77 percent of its pre-September 11 total. With a return to full service, traffic would be able to grow to its previous total of approximately 800 daily flights. (See February 17, 2002; June 21, 2002.)

March 21, 2002: The National Transportation Safety Board determined that the probable cause of the crash of EgyptAir Flight 990 was the airplane's departure from normal cruise flight and subsequent impact with the Atlantic Ocean as a result of the relief first officer's flight control inputs. EgyptAir Flight 990, a Boeing 767-366ER, crashed into the Atlantic Ocean off the coast of Nantucket, Massachusetts on October 31, 1999. The scheduled flight was being operated from John F. Kennedy International Airport, New York, to Cairo International Airport, Cairo, Egypt. The 14 crewmembers and 203 passengers were killed and the airplane destroyed. Because the crash occurred in international waters, the Egyptian government had responsibility for the investigation under the provisions of Annex 13 to the Convention on International Civil Aviation. However, the Egyptian government delegated the conduct of the investigation to the NTSB under the provisions of Annex 13. (See October 31, 1999.)

March 26, 2002: Department of Transportation and Department of Defense (DoD) Secretaries Norman Mineta and Donald Rumsfeld announced the release of the 2001 Federal Radionavigation Plan. This plan included revised schedules for phasing down most land-based radionavigation systems to allow more time to transition to the global positioning system. Department of Transportation would continue to operate Loran-C in the short term while the administration continued to evaluate the long-term need for the system. Beginning with this edition, federal radionavigation information previously contained in a single document would be published in two separate documents, the Federal Radionavigation Plan, and a companion document entitled Federal

Radionavigation Systems. The plan included the introduction, policies, operating plans, system selection considerations, and research and development sections, and would allow more efficient and responsive updates of policy and planning information. Sections relating to government roles and responsibilities, user requirements, and systems descriptions were moved to the companion document and would be updated as necessary. A joint product of the Department of Transportation and DoD, the radionavigation plan was mandated by the National Defense Authorization Act for fiscal year 1998, which also required that the plan be revised and updated at least every two years. (See February 2000.)

March 29, 2002: In response to the En Route Automation Modernization (ERAM) screening information request (SIR) issued March 15, Raytheon filed a formal protest of FAA's sole-sourcing plans to judge bids for the ERAM contract. Raytheon and Lockheed Martin had been the only firms planning to bid on ERAM. Subsequently, an alternative dispute resolution process was set up, FAA shelved the sole-source proposal, and the agency worked with both companies to craft a new SIR. *Late June 2002*, FAA formalized an agreement between Lockheed Martin and Raytheon to resolve the ERAM contract dispute. Lockheed Martin was awarded the contract worth \$10 million for the risk-mitigation phase of the ERAM program, with Raytheon named as one of the subcontractors. At the same time, Lockheed Martin was named as a subcontractor to Raytheon on the Standard Terminal Automation Replacement System (STARS) project. If Lockheed Martin successfully executed the risk mitigation phase, it would secure the implementation contract for the full ERAM program. The total projected value for implementation and support was estimated at \$1 billion through 2012. (See September 28, 2001; June 30, 2003.)

March 2002: FAA awarded a \$26 million follow-on contract to Harris Corporation to maintain and support the Weather and Radar Processor (WARP). Under the original contract, a \$72.5 million design and development award given to Harris in July 1996, FAA tasked the firm to develop, procure, install, and support 24 WARP systems at FAA air route traffic control centers and the Air Traffic Control System Command Center. The follow-on contract covered general support and hardware and software maintenance through September 2004. Future awards and options could increase the overall contract value to more than \$125 million by 2004. (See February 28 2002; May 2002.)

April 1, 2002: Under contract to FAA's Capstone Program Office in Anchorage, Alaska, General Dynamics Decision Systems, successfully demonstrated a direct small aircraft-to-satellite navigation communications data link capability. Using a Motorola hand-held satellite telephone in a University of Alaska Cessna 180, General Dynamics conducted its proof-of-concept demonstration, transmitting a live stream of aircraft position data, via the Iridium satellite system, to the Anchorage Air Route Traffic Control Center. The test flight departed Merrill Field, proceeded along the Knik Arm of Cook Inlet, past Pioneer Peak, and continued deep into the Knik Glacier valley. (See January 1, 2001; July 1, 2002.)

April 3, 2002: FAA announced it had issued space launch licenses to two U.S. launch vehicles, the Lockheed Martin Atlas V and the Boeing Delta IV rockets. Both were scheduled to fly before the end of the year, each carrying commercial satellite payloads. The new vehicles were highly advanced models of the Atlas and Delta vehicles which had served as the workhorses of U.S. government and commercial launches for many years. (See February 9, 2001; April 1, 2004.)

April 8, 2002: Department of Transportation Inspector General for Auditing, Alexis Stefani, testified before the House Transportation and Infrastructure Aviation Subcommittee on FAA's oversight of passenger aircraft maintenance. Stefani stated that while FAA's Air Transport Oversight System (ATOS) for monitoring air carriers was conceptually sound, it was not reaching its full potential at the original ten major carriers and had not been expanded to the remaining 129 passenger air carriers. FAA had a long-standing requirement for carriers to monitor their own maintenance. The carriers, however, placed limited emphasis on information derived from Continuing Analysis and Surveillance Systems, a subcomponent of ATOS used to monitor the effectiveness of their aircraft maintenance and inspection programs. As a result, weaknesses had gone undetected in air carrier maintenance systems. Stefani recommended FAA:

- Finish developing key elements of ATOS – specifically, processes for analyzing inspection results and ensuring that corrective actions were implemented for weaknesses found in air carrier maintenance and operations systems,
- Improve inspector training and locating qualified inspectors where they were most needed, and
- Establish strong national oversight and accountability to ensure consistent ATOS field implementation. (See October 1, 1998.)

April 27, 2002: A new terminal radar control facility (TRACON) began providing air traffic approach and departure control for the entire St. Louis metropolitan area. Airport traffic control tower facilities supported by the new TRACON included St. Louis Lambert International Airport (St. Louis); Spirit of St. Louis Airport; (Chesterfield, Missouri); St. Louis Regional Airport (Alton, Illinois); St. Louis Downtown Airport (Cahokia, Illinois); and Scott Mid-America Airport (Belleville, Illinois), a joint-use facility also responsible for directing air traffic for Scott Air Force Base.

May 6, 2002: FAA announced the successful deployment of the User Request Evaluation Tool (URET) at the Washington Air Route Traffic Control Center in Leesburg, Virginia. URET allowed pilots to select more direct routes to their destinations. The new digital system was one of many building blocks in the FAA Free Flight technology. In addition to Washington, URET was in use at five other air route traffic control centers (Kansas City, Cleveland, Chicago, Indianapolis, and Memphis). (See January 26, 2002; October 30, 2006.)

May 9, 2002: FAA announced the operational use of the Standard Terminal Automation Replacement System (STARS) in El Paso, Texas. This upgraded version, referred to as full STARS, completely replaced the Automated Radar Terminal Systems (ARTS). Full STARS consisted of state-of-the-art displays and computers providing radar service and a backup service. The full system was being developed in phases so that the concerns of



technicians and air traffic controllers could be addressed. In 1999, El Paso and Syracuse, New York, had received an early version of STARS, which had attached STARS to the ARTS processing system. (See January 12, 2000; June 12, 2002.)

May 10, 2002: FAA issued a proposed rule that would reduce the minimum vertical separation between aircraft from the current 2,000 feet to 1,000 feet for all aircraft flying between 29,000 and 41,000 feet, thus allowing more airplanes in the same volume of airspace. At the time, aircraft at those altitudes had to be separated by 2,000 feet vertically, meaning they could fly only at 29,000, 31,000, 33,000 feet and so forth. Implementing Reduced Vertical Separation Minima procedures was intended to increase the routes and altitudes available and lead to more efficient routings that would save time and fuel. (See December 10, 2001; October 22, 2003.)

May 2002: The Fort Worth Air Traffic Control Center became the first facility to go operational with the Weather and Radar Processor (WARP) on the controller displays. WARP displayed Terminal Doppler Weather Radar information directly to controllers on the same screen as aircraft position data, thus helping controllers to reroute air traffic to avoid areas of severe weather. FAA planned to install WARP at the other en route centers during June and July and have the system operational at all the center sites by the end of October. (See March 2002; January 23, 2003.)

June 12, 2002: FAA announced plans to purchase new radar automation display systems for some low- to medium-activity airports that currently lacked radar displays. The display systems were part of the FAA's plan for providing interim tower displays in advance of the full national deployment of the Standard Terminal Automation Replacement System (STARS). Called the ARTS IE (Automated Radar Terminal Systems IE) and STARS LITE (STARS local integrated tower equipment), the displays were based on existing air traffic control technology, enabling the FAA to minimize the need for additional testing, evaluation and training. (See May 9, 2002; September 17, 2002.)

June 14, 2002: GAO concluded FAA's controller hiring plans were inadequate, and that the widely publicized problem of controller retirements was going to be even worse than the agency had predicted. Investigating controller attrition at the direction of Congress, the GAO reported that about 5,000 controllers might retire in the next five years, double the number who retired in the previous five years. Although the exact number and timing of the controllers' departures had not been determined, attrition scenarios developed by both FAA and GAO indicated that the total attrition would grow substantially in both the short and long term. As a result, FAA would likely need to hire thousands of air traffic controllers in the next decade to meet increasing traffic demands and to address the anticipated attrition of experienced controllers.

June 21, 2002: FAA issued a notice of agency reconsideration of final rule regarding the charging of fees for providing air traffic services required by aircraft that fly in U.S.-controlled airspace but neither take off from, nor land in, the United States. Since August 1, 2000, the agency had been charging fees for these overflight services. Authorized by

the Federal Aviation Reauthorization Act of 1996, the fees were amended by the Aviation and Transportation Security Act, enacted on November 19, 2001. The newer legislation further required that the fees be “reasonably,” rather than directly, related to costs. The 2001 Act provided that the determination of costs by the FAA Administrator was not subject to judicial review. On May 6, 2002, FAA published a notice of inquiry in the *Federal Register* seeking public comment on whether, and to what (if any) extent, these statutory changes required the agency to modify its final rule on fees. (See August 20, 2001.)

June 21, 2002: Effective this date, FAA required improved flightdeck security and operational and procedures changes to prevent unauthorized access to the flightdeck on passenger-carrying aircraft and some cargo aircraft operated by foreign carriers under the provisions of part 129. This final rule applied the same flightdeck security enhancements to foreign air carriers as applied to U.S. air carriers. (See March 13, 2002; October 28, 2002.)

June 26, 2002: FAA announced plans to upgrade the tower data link services (TDLS) to enhance the reliability of service between tower controllers and pilots. The upgrade would include changes to system hardware, software, and supporting technical documentation. Philadelphia and Boston Logan International airports would receive the upgrades first. Over the following 12 months, FAA planned to upgrade 58 high-density airport towers in the U.S. then using TDLS. In all, the system was used by 17 major airlines and two general aviation service providers who relayed flight information to 1,400 aircraft and two cargo carriers.

July 1, 2002: FAA announced that flight service station specialists in Anderson, South Carolina, had begun using the Operational and Supportability Implementation System (OASIS), part of the agency's program to modernize 61 automated flight service stations in all 50 states and Puerto Rico. The stations provided in-flight planning and up-to-date weather information to general aviation pilots. OASIS consisted of commercial-off-the-shelf hardware and software to combine weather, flight plan, and aeronautical database information within a single system. (See August 25, 1997.)

July 1, 2002: FAA announced it had completed the technical and economic evaluations of alternative ADS-B technologies and decided that ADS-B would use a combination of the 1090 MHz extended squitter ADS-B link for air carrier and private/commercial operators of high performance aircraft, and the Universal Access Transceiver ADS-B link for the typical general aviation user. ADS-B airborne systems would transmit an aircraft's identity, position, velocity, and intent to other aircraft and to air traffic control systems on the ground, allowing for common situational awareness to all appropriately equipped users of the national airspace system. (See April 1, 2002; August 30, 2007.)

July 15, 2002: FAA announced that Harris Corporation had been awarded a contract to modernize, operate, and manage the telecommunications infrastructure that air traffic controllers use to communicate with each other and with pilots. The contract called for the replacement of FAA-owned multiplexing and switching networks, as well as

telecommunications services leased from multiple providers. The performance-based contract consisted of a five-year base with options that could extend the period of performance up to 15 years. The FAA anticipated the contract value to grow beyond the initial evaluated cost of approximately \$1.7 billion to an estimated \$3.5 billion.

July 15, 2002: While lauding FAA's initiative to develop new communications technologies that would support future air traffic management needs, a GAO report recommended the agency assess the possible impact of emerging technologies on the effort. Anticipated growth in air traffic would require more channels for voice communication than FAA's current systems could handle, according to the report. The agency had undertaken its Next Generation Air/Ground Communications (NEXCOM) initiative to develop an integrated voice and data communications system that would keep pace with future needs. According to the GAO report, FAA eventually would require aviation users to buy new radios and other equipment to support the system. The agency estimated its long-term funding commitment to NEXCOM could reach \$4 billion through fiscal year 2023. Members of the House Subcommittee on Aviation had asked GAO to determine to what extent the FAA's current communications infrastructure could meet future needs, what FAA had done to ensure that the technology selected for NEXCOM would be adequate, and what issues the agency had to resolve before it made its final decision. (See February 22, 2002; February 5, 2003.)

July 17, 2002: The White House announced its intention to nominate National Transportation Safety Board Chair Marion Blakey to become FAA Administrator after Jane Garvey's five-year term ended. Blakey, 54, had been at NTSB for less than a year, having been selected for the post in June 2001 and sworn in September. Before becoming NTSB chairman, Blakey, a native of Gadsden, Alabama, spent eight years - during the Clinton Administration - running her own public affairs consulting business, Blakey & Associates. Before that she held numerous government posts in Republican administrations, including jobs with the Departments of Commerce and Education, the National Endowment for the Humanities and the White House. She was Administrator of Department of Transportation's National Highway Traffic Safety Administration under the senior President Bush from 1992-1993. She was a 1970 graduate of Mary Washington College, and did graduate work in Middle East affairs while attending the School of Advanced International Studies at Johns Hopkins University. (See August 2, 2002.)

July 18, 2002: FAA awarded the Boeing Company a \$23 million contract to examine the feasibility of incorporating satellite-based communications and air traffic management systems into the national airspace system. This was the first significant FAA contract for Boeing's new air traffic management division.

August 2, 2002: Jane Garvey's five year term as FAA Administrator ended. The Senate confirmation hearing for FAA Administrator-designate Marion Blakey, originally scheduled for this date, was postponed. Secretary Mineta named Monte Belger acting administrator. In an earlier memo to the FAA management team, the Secretary announced that Belger had agreed to stay on beyond his planned retirement date to aid in the transition. If Blakey had been confirmed, Belger would have been acting deputy

administrator through August 30. (See August 4, 1999; November 8, 1999; July 17, 2002; September 13, 2002.)

August 5, 2002: FAA announced that it was providing pilots with Internet access to runway visual range (RVR) information, an electronic means to display how far a pilot with normal vision would be able to see down the runway during an approach. Pilots and flight operations centers used RVR in deciding whether to land at an airport when visibility was poor. Previously, RVR information had been available only to selected air carriers as part of the FAA's CDM initiative, where it was used for traffic management planning.

August 7, 2002: Effective this date, FAA amended the noise certification standards for subsonic jet airplanes and subsonic transport category large airplanes. These changes were based on the joint effort of FAA, the European Joint Aviation Authorities (JAA), and the FAA Aviation Rulemaking Advisory Committee, to harmonize the U.S. noise certification regulations and the JAA requirements for subsonic jet airplanes and subsonic transport category large airplanes. The changes would provide nearly uniform noise certification standards for airplanes granted certificates in the United States and in the JAA countries. The harmonization of the noise certification standards would also simplify airworthiness approvals for import and export purposes.

August 27, 2002: FAA issued a final rule confirming interim final rules published on September 29, 1992, and December 30, 1993, requiring deicing operations in ground icing conditions. The interim final rules required Part 121 certificate holders to develop and comply with a FAA approved ground deicing/anti-icing program, part 125 certificate holders to provide pilot testing on conducting operations in ground icing conditions, part 135 certificate holders to provide pilot training on conducting operations in ground icing conditions, and part 125 and 135 certificate holders to check airplanes for contamination (i.e., frost, ice, or snow) prior to takeoff when ground icing conditions exist.

September 9, 2002: FAA announced plans to develop, and implement within the next year, a plan to establish an air navigation concept called Required Navigation Performance (RNP). Under RNP, the national airspace system would evolve from a ground-based design to one where aircraft could take full advantage of advanced technologies for precision guidance in the en route (high-altitude) and terminal (about a 40-mile radius of the airport) areas. Potential benefits would include allowing more precision approach and departure paths at airports and keeping aircraft clear of obstacles and terrain. Using RNP, flight paths could be developed that met operators' preferred routes and environmental requirements. Parallel paths also could be developed to increase airspace capacity, both in en route and terminal operations. (See October 8, 2002.)

September 13, 2002: Marion C. Blakey was sworn in as the 15th Administrator of FAA. (See August 2, 2002.)

September 13, 2002: Monte Belger, long-serving acting FAA deputy administrator retired. Belger worked for FAA for more than 30 years. He joined the agency in 1972 as

a security inspector in Tampa, Florida. From 1980 to 1988, he held three senior management positions in the Great Lakes region. In 1992, he was named executive director for acquisitions and safety oversight. Since 1995, Belger had been associate administrator for air traffic services, responsible for the daily operations of the national airspace system. In 1998, he was named acting deputy administrator. (See August 2, 2002; November 2, 2002.)

September 15, 2002: FAA commissioned a new state-of-the-art air traffic control tower at the Orlando International Airport. The new tower, at 345 feet, became the tallest in North America.

September 17, 2002: The Department of Transportation Inspector General expressed concerns about progress on deploying the Standard Terminal Automation Replacement System (STARS). The IG had pointed out that FAA had officially changed the cost, schedule, and requirements for STARS twice. In October 1999, FAA estimated the cost for its new approach at \$1.4 billion, with a schedule to begin deploying STARS in 2002 at 188 facilities, with installation to be complete at all facilities by 2008. The second change occurred in March 2002, when FAA lowered its estimate from \$1.4 billion to \$1.33 billion, reduced the number of facilities receiving STARS from 188 to 74, and changed the date to complete installation at all facilities from 2008 to 2005. FAA responded to the IG concerns by stating it planned to follow its policy for testing STARS and addressing critical software problems. Because FAA had changed the date for deploying STARS at the first facility from 1998 to 2002, the agency was implementing interim systems to allow it to continue to meet demands for air traffic services. (See June 12, 2002; September 20, 2002.)

September 20, 2002: Raytheon defended the Standard Terminal Automation Replacement System (STARS) in a statement responding to a recent GAO report that cited critical software problems with the system. FAA planned to introduce STARS at the Philadelphia TRACON on November 18. STARS would control live traffic there, with the current system serving as a backup. FAA expected to commission formally the new system in February 2003. (See September 17, 2002; February 4, 2003.)

October 3, 2002: FAA issued a notice of proposed rulemaking that would require FAA-approved corrosion prevention and control programs to be included in the maintenance and inspection of all airplanes operated under part 121 of Title 14, Code of Federal Regulations, all multiengine airplanes registered in the U.S. but operated in common carriage by foreign air carriers or foreign persons under 14 CFR part 129, and all multiengine airplanes used in scheduled operations under 14 CFR part 135.

October 4, 2002: FAA proposed a two-step program for getting more crash-resistant seats into airplane cabins. Once finalized, these steps would place current-standard "16g" seats in the U.S. fleet within 14 years. FAA proposed giving manufacturers of Part 121 and 135 aircraft four years to get the new seats onto production lines. In-service planes would require the upgrades within 14 years, or when seats were replaced as part of interior upgrades, starting four years after the rule's publication. FAA would tackle the production lines first because new-build planes would have longer useful lives than in-

service jets. A FAA study concluded that 16g seats – already in service on many planes – would prevent 114 passenger deaths and 133 serious injuries through 2020. The then-current 9g minimum standard, established in the 1950s, used a static test to measure how much force could be applied to a seat before it broke. The new 16g standard was based on a dynamic test using real-life crash impact data.

October 7, 2002: Controller-Pilot Datalink Communications (CPDLC) became operational at the Miami Air Route Traffic Control Center. The prototype system, which had been tested for one year at Miami, offered four services:

- Transfer of communications (an obligatory data transfer process occurring with a flight's hand-off from one sector to another).
- Initial contact (an obligatory exchange of information occurring at the time of a crew's first check-in with an air traffic control facility).
- Exchange of altimeter setting information.
- Exchange of "menu text" to determine what types of messages proved most beneficial to pilots and controllers. (See February 4, 2000.)

October 7, 2002: FAA published a final rule requiring Boeing 737 operators to install a newly designed rudder control system and make other changes to the aircraft to accommodate the new system. The new design increased the overall safety of the aircraft by simplifying the rudder system and eliminating a range of failure possibilities. Operators had six year to install the new system. (See November 13, 2001.)

October 8, 2002: In a speech at the U.S. Chamber of Commerce Aviation Summit, FAA Administrator Marion Blakey announced that, within a month, FAA would approve Required Navigation Performance (RNP) procedures for San Francisco International Airport. Through the use of onboard technology, pilots would be able to navigate aircraft to any point in the world using only geographical coordinates. (See September 9, 2002; December 31, 2002.)

October 28, 2002: Effective this date, FAA revised the pilot certificate requirements to require a person to carry approved photo identification when exercising the privileges of a pilot certificate. Additionally, the rule required a pilot certificate holder to present photo identification when requested by authorities including a duly-authorized representative of the FAA, NTSB, TSA, or a law enforcement agency. (See June 21, 2002; February 10, 2003.)

November 22, 2002: The White House announced plans to nominate Robert Sturgell, senior counsel to FAA Administrator Marion Blakey, to fill the vacant FAA deputy administrator post. (See September 13, 2002.)

November 23, 2002: FAA issued an emergency airworthiness directive for Boeing 737-600s and -700s, 700Cs, 900s, 747s, and 757s after two fuel tank pumps on separate 747s showed "extreme localized overheating of parts." The AD gave carriers four days to comply. The parts in question were located in the priming and vapor pump section of the

fuel pump. FAA said the likely cause of the overheating was friction between the pump parts but found no specific cause. (See June 6, 2001; July 30, 2004.)

November 27, 2002: FAA issued a final rule for air tour operators that called for development of site specific plans to protect the environment of U.S. national parks. The rule, crafted with input from the National Park Service (NPS), accommodated the varied interests of visitors to the parks, Native American tribes, and local air tour operators. The National Parks Air Tour Management Act of 2000 had directed the FAA, in cooperation with NPS, to establish an Air Tour Management Plan (ATMP) for any unit of the National Park System, or abutting tribal lands, where commercial air tour operations were conducted or planned. To continue air tour operations over any national park or abutting tribal lands, all existing air tour operators were required to submit an application to the FAA for operating authority by January 23, 2003. Existing operators who complied with all applicable federal requirements would be granted interim operating authority to continue air tour operations while developing their individual ATMPs. New entrant operators had to apply for and be granted operating authority before commencing air tours over any national park or abutting tribal lands. (See March 15, 2007.)

November 2002: A high-profile government report called for FAA to offer incentives to airlines to introduce the onboard technology necessary to support a modernized air traffic management (ATM) system, and recommended changes to the modernization process itself. The final report of the Commission on the Future of the U.S. Aerospace Industry said airline reluctance to equip their fleets with new technology could hinder ATM modernization. It said mandatory rules and operational benefits were insufficient to motivate the aggressive operator investments needed for system-wide improvements. Onboard technology should be regarded as part of national aviation infrastructure, and therefore federally funded, the report said.

December 8, 2002: FAA issued an interim final rule requiring inspections and records reviews for most aircraft that had been in scheduled commercial service for 14 years or more. The rule, effective one year from this date, mandated that operators could not keep an airplane in service more than four years from the effective date unless the maintenance program for the aircraft included damage-tolerance-based inspections and procedures for certain parts. The rule affected operators of multi-engine airplanes in scheduled operations under Parts 121, 135, and 129 of the federal aviation regulations, as well as type certificate holders (for example, aircraft manufacturers). The rule did not apply to airplanes operated within the state of Alaska.

December 8, 2002: FAA commissioned a new air traffic control tower at Miami International Airport. The tower could withstand 150-mile-per-hour winds generated by hurricanes. At 333 feet, the Miami tower was the second-tallest in the U.S. after Orlando International's 345-foot tower.

December 14, 2002: The new Potomac Consolidated TRACON began operations. The new state-of-the-art facility in Fauquier County, Virginia, consolidated five existing

TRACONs and allowed the FAA to redesign the airspace in this area for more efficient, direct flight routings. (See March 6, 2000.)

December 31, 2002: FAA signed an industry-championed change, eight years in the making, adding Required Navigation Performance (RNP) instrument approach procedures to the rolls of the terminal instrument procedures document and other publications. In about one year from the nondescript event, operators would be permitted to begin flying scaled-down versions of the futuristic RNP instrument approaches used by Alaska Airlines in remote locations. The RNP rating system defined an aircraft's ability to know its own position in terms of nautical miles. The lower the aircraft's RNP number, the more airspace access – particularly in new or reduced minimums approaches – would be available to it. The role of FAA in the new regime would be to set the required accuracy levels and criteria for routes or procedures, after which users could decide if the rewards of participating were worth the effort of their participation. (See October 8, 2002; July 25, 2003.)

## 2003

January 7, 2003: FAA announced a tentative agreement in principle to extend the existing contract with the National Air Traffic Controllers Association, signed in 1998, for two years to September 2005. (See June 15, 1998; December 9, 2003.)

January 8, 2003: Air Midwest Flight 5481, a Beechcraft 1900D operating as US Airways Express Flight 5481, crashed into an airport hangar and burst into flames 37 seconds after taking off from Charlotte/Douglas International Airport in Charlotte, North Carolina. All 19 passengers and two pilots aboard were killed in the accident, one person on the ground received minor injuries. *February 26, 2004*, the National Transportation Safety Board determined that the probable cause of the accident was the airplane's loss of pitch control during takeoff. The findings also suggested that this loss of pitch control probably resulted from a combination of an incorrect rigging of the elevator control system together with a weight distribution that caused the airplane's center of gravity to shift dangerously far aft. (See January 27, 2003.)

January 23, 2003: FAA announced it had completed deployment of the Weather and Radar Processor (WARP) at all 20 air route traffic control centers. WARP allowed air traffic controllers to view highly accurate and timely weather information on the same display that showed aircraft position data. (See May 2002.)

January 27, 2003: FAA issued an emergency AD requiring operators to perform prescribed elevator system checks on Raytheon Beechcraft Models 1900, 1900C and D aircraft by January 31. The actions were aimed at preventing an accident similar to the January 8 crash of Air Midwest Flight 5481. In addition, FAA ordered commuter airlines to begin weighing some passengers out of concerns of possible overloading of passengers and baggage. The program covered planes registered in the U.S. and carrying 10 to 19 passengers. The 30-day sample of passenger and baggage weights was designed to determine whether FAA's assumptions at the time about passenger and baggage weights



were valid. In general, the agency had assumed that an average adult would weigh 180 pounds in summer and 185 pounds in winter, and travel with 20 pounds of carry-on luggage. Each child aged two to twelve was assumed to weigh 80 pounds. (See January 8, 2003.)

February 4, 2003: Representative Ellen Tauscher (D-CA), member of the House Transportation aviation subcommittee, expressed concerns that cost overruns on the Standard Terminal Automation Replacement System (STARS) would compromise other agency programs. Tauscher, responding to a GAO report released on February 3, criticized FAA's management of the program in these terms: "After seven years and \$1.2 billion, only one major airport has new technology." She considered STARS to be poorly managed. The GAO report was similar in content to a recent Department of Transportation Inspector General report. Tauscher warned the FAA: "This continued lackadaisical management is simply unacceptable." Tauscher said the agency had spent \$1.2 billion on STARS since 1996, and estimated it would take at least \$153 million over five years to deploy the system. GAO pointed out that inaccuracies in the baseline data received by FAA did not reflect the current status of the contract and recommended changes in STARS management. (See September 20, 2002; June 9, 2003.)

February 5, 2003: FAA awarded contracts to ITT Industries, Inc., and Harris Corporation valued at \$16 and \$21 million, respectively, over a 20-month period for the initial phase of Next Generation Air/Ground Communications (NEXCOM). By integrating data link with digital voice, NEXCOM would make more efficient use of the available frequency spectrum, and accommodate additional air traffic control sectors and new runways to support continued industry growth. The existing air/ground communications system had been used for air traffic control for more than 50 years. (See July 15, 2002; March 18, 2004.)

February 10, 2003: FAA expanded the restricted airspace over Washington, DC. It now covered a 30-mile radius from each of the region's three major airports – Reagan National, Baltimore-Washington International, and Dulles International. (See October 28, 2002; July 26, 2007.)

May 1, 2003: FAA awarded a Local Area Augmentation System (LAAS) contract to Honeywell International, Inc. A satellite navigation landing system, LAAS would enable pilots to guide planes safely into busy airports in bad weather. It also would significantly increase the accuracy, availability, continuity and integrity of the information received from the global positioning system (GPS) constellation of satellites to enhance the safety and efficiency of air travel. The contract was to unfold in three phases. The first phase, valued at \$16.7 million, provided for the software and hardware design of the category I LAAS. Phases 2 and 3 contract options, which totaled an additional \$340 million, covered the development and production of the category I system. Category I precision landing provided a level of service in poor weather conditions down to a ceiling of 200 feet and visibility of one-half mile. (See August 13, 1999.)

May 1, 2003: Effective this date, FAA revised the applicability of certain collision avoidance system requirements for airplanes. The rules previously in place were based on passenger seating configuration and, therefore, excluded all-cargo airplanes. Intended to reduce the risk of a mid-air collision involving a cargo airplane, this final rule would use airplane weight and performance characteristics as the basis for collision avoidance system requirements. Specifically, it would apply to cargo airplanes weighing more than 33,000 pounds maximum certificated takeoff weight.

June 9, 2003: FAA commissioned the first Standard Terminal Automation Replacement System (STARS) at a large, busy airport – Philadelphia International Airport. Under a joint FAA and DoD program, STARS would eventually replace computers and displays at more than 300 air traffic control facilities nationwide. In addition to Philadelphia, other FAA deployments scheduled for 2003-2004 included: Portland, Oregon; Boston, Massachusetts; Miami, Florida; Milwaukee, Wisconsin; Port Columbus, Ohio; San Antonio, Texas; and Seattle/Tacoma, Washington. (See February 4, 2003.)

June 10, 2003: Department of Transportation Secretary Norman Mineta announced the selection of Russell G. Chew as the FAA's first Air Traffic Organization Chief Operating Officer (COO). (See April 5, 2000; December 7, 2000; November 18, 2003; February 23, 2007.)

June 30, 2003: The Department of Transportation Inspector General outlined cost and timetable overruns in most of FAA's major acquisition programs. The IG raised red flags about large programs such as En Route Automation Modernization (ERAM), a program it considered to be a high-risk effort and one of the largest, most expensive, software-intensive, and complex acquisitions FAA has undertaken. (See March 29, 2002; September 30, 2007.)

June 2003: FAA issued the *Human Factors Design Standard*, a compilation of human factors practices and principles integral to the procurement, design, development, and testing of FAA systems, facilities, and equipment. The guide, which superceded the 1996 *Human Factors Design Guide*, provided a single easy-to-use source of human factors design criteria, oriented to the needs of the FAA mission and systems.

July 10, 2003: FAA commissioned Wide Area Augmentation System, technology designed to improve the accuracy, availability, and integrity of global positioning system (GPS) to provide a navigation and landing system that could deliver precision guidance to aircraft at thousands of airports and airstrips lacking precision landing capability. (See April 10, 2001; March 24, 2006.)

July 21, 2003: Effective this date, FAA amended the airworthiness standards applicable to the lower deck service compartments of transport category airplanes. The change required that two-way voice communication systems between lower deck service compartments and the flightdeck remain available following loss of the normal electrical power generating system. It also clarified the requirements for seats installed in the lower deck service compartment. While adoption of the amendment would not affect then

current industry design practices, it would eliminate regulatory differences between the airworthiness standards of the U.S. and requirements of the Joint Aviation Authorities.

July 25, 2003: FAA released a plan to develop air traffic procedures that would employ Required Navigation Performance (RNP) and area navigation (RNAV), coupled with on-board technology, to help pilots to navigate to any point in the world. The RNP Roadmap identified steps and milestones that would transition the U.S. airspace system from reliance on airways running over ground-based navigation aids to a point-to-point navigation concept that would take maximum advantage of advanced automation capabilities aboard aircraft. The plan, which would be updated regularly, was to be divided into three implementation timeframes:

- Near-Term (2003-2006). FAA and industry would implement a first set of RNP and RNAV procedures in all phases of flight. The agency also would continue to develop criteria and guidance for more advanced RNP/RNAV operations.
- Mid-Term (2007-2012). RNAV would become the primary means of navigation in U.S. airspace. Additional RNP procedures would be made available as more aircraft were equipped with advanced technologies. FAA would begin to remove some ground-based navigation aids, routes and procedures from service starting in 2010.
- Far-Term (2013-2020). Based on previous demonstration of RNP/RNAV benefits, the U.S. aircraft fleet would continue to advance its capabilities. By 2020, operators would use RNP and RNAV procedures operationally in all areas. A minimal operational network of ground-based navigation aids would remain in place. (See December 31, 2002; December 20, 2005.)

July 30, 2003: FAA dropped an ATR42-300 regional transport airplane 50 feet to the concrete below as part of its efforts to collect the empirical data needed to set crashworthiness standards for commuter aircraft. Data collected from this and previous tests at the William J. Hughes Technical Center would help researchers to assess the impact response characteristics of the airframe structure, seats, overhead stowage bins, fuel tanks, and the potential for occupant injury.

July 31, 2003: FAA began issuing new, security-enhanced airman certificates to the nation's 650,000 active pilots. FAA Administrator Marion Blakey unveiled the new certificate before hundreds of aviation enthusiasts at the annual Experimental Aircraft Association AirVenture. The new credit card-sized certificates were made from high-quality composite media card stock and incorporated new security features, such as a hologram of the FAA seal. They replaced the existing paper airman certificates which were easily damaged.

August 18, 2003: Effective this date, FAA amended flight data recorder regulations by expanding the recording specifications of certain data parameters for specified airplanes, and by adding aircraft models to the lists of aircraft excepted from the 1997 regulations. In addition, this rule corrected specifications in an operating rule appendix that were inadvertently omitted in previous actions. These changes were necessary to allow the continued operation of certain aircraft that could not meet the existing recorder criteria without incurring a cost-prohibitive retrofit. (See January 8, 2000; February 24, 2005.)

September 2, 2003: Effective this date, FAA adopted upgraded flammability standards for thermal and acoustic insulation materials used in transport category airplanes. The standards included new flammability tests and criteria that addressed flame propagation and entry of an external fire into the airplane. The standards previously in place did not realistically address situations in which thermal or acoustic insulation materials might have contributed to the propagation of a fire. (See September 8, 2000; April 1, 2005.)

September 4, 2003: Runway 16R/34L opened at Denver International Airport and runway 8/26 opened at Miami International Airport.

September 30, 2003: During FY 2003, which ended on this date, FAA issued its first annual strategic plan, Flight Plan 2004-2008. The new plan laid out four goals and described FAA's strategies for achieving those goals. The Flight Plan was aligned with the Department of Transportation strategic plan and linked to FAA's budget requests. Every staff office and line of business was required to develop a plan that linked directly to the flight plan. (See November 8, 2004.)

October 15, 2003: The White House commission established to investigate the September 11, 2001, terrorist attacks issued a subpoena to obtain needed documents from FAA. In May, the commission had requested all documents relating to FAA's tracking of the hijacked airliners and communications with the North American Aerospace Defense Command. FAA had provided 40 boxes containing 150,000 pages of information in September, but during subsequent interviews, the commission had learned that some materials had not been included. FAA officials responded that their failure to turn over all documents had been caused in part by internal procedures used to search for material. (See July 22, 2004.)

October 21, 2003: FAA announced the nationwide deployment of the first all-digital airport radar system. The Airport Surveillance Radar (ASR-11) replaced older-generation analog radars nearing the end of their service life. The replacement technology provided improved digital aircraft and weather input needed by FAA's new air traffic control automation systems, such as the Standard Terminal Automation Replacement System (STARS). The first ASR-11 went operational in March at the Willow Grove, Pennsylvania, Naval Air Station, and was providing radar data to STARS at the Philadelphia International Airport. The new radars grew out of a joint FAA/DoD program. FAA planned to procure a total of 112 ASR-11s, with scheduled deployment completed in 2009. FAA had procured 25 systems since the contract was awarded in December 1996.

October 22, 2003: FAA issued a new rule reducing the minimum vertical separation between aircraft from the current 2,000 feet to 1,000 feet for all aircraft flying between 29,000 feet and 41,000 feet. RVSM implementation would significantly increase the routes and altitudes available and thus allow more efficient routings that would save time and fuel. FAA planned to implement Reduced Vertical Separation Minima (RVSM) procedures on January 20, 2005, to give airlines and other aircraft operator's time to install the more accurate altimeters and autopilot systems needed to ensure the highest

level of safety. The long-awaited rule – FAA initiated the process with a notice of proposed rulemaking in May 2002 – detailed equipment requirements, including dual altimeters and a more advanced autopilot system. Aircraft equipped with traffic alert and collision avoidance system version II (TCAS II) had to be updated with new software, compatible with RVSM operations. (See May 10, 2002; November 26, 2003.)

October 31, 2003: Runway 8L/26R opened at George Bush Intercontinental/Houston Airport.

November 5, 2003: FAA announced U.S. certification of an innovative diesel aircraft engine that used automotive parts and ran on jet fuel. Administrator Marion Blakey made the announcement before the Aircraft Owners and Pilots Association annual conference in Philadelphia, Pennsylvania. The 4-cylinder, 135 hp TAE 125-01 was developed by German-based Thielert Aircraft Engines (TAE), an auto racing engine and global automotive parts manufacturer. This newly certified aircraft engine could be installed in general aviation aircraft such as two- seat Cessna and Piper models.

November 10, 2003: FAA proposed first-time regulations for extended aircraft operations (ETOPS), which would allow consumers to take advantage of new, more direct routes and more frequent trips on existing routes. If adopted, ETOPS rules would cover scheduled air carriers (Part 121) and charter operators (Part 135) and carry the full legal authority of a federal aviation regulation. Currently, carriers and operators complied voluntarily with FAA advisory circulars that governed ETOPS. (See February 15, 2007.)

November 17, 2003: Effective this date, FAA updated and revised the regulations governing operations of aircraft in fractional ownership programs. The final rule defined fractional ownership programs and their various participants, allocated responsibility and authority for safety of flight operations for purposes of compliance with the regulations, and ensured that fractional ownership program aircraft operations would maintain a high level of safety. These regulations provided a level of safety for fractional ownership programs equivalent to regulations that apply to on-demand operators. (See February 23, 2000.)

November 18, 2003: Department of Transportation Secretary Norman Mineta announced initial details of FAA's new Air Traffic Organization (ATO) business structure. ATO would consolidate the FAA's air traffic services, research and acquisitions, and free flight program activities into a smaller, more efficient organization with a strict focus on providing the best service for the best value to the aviation industry and the traveling public. The establishment of the ATO was first recommended by the 1997 National Civil Aviation Review Commission, chaired by Mineta. In April 2000, Congress enacted the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century that mandated establishing the position of a Chief Operating Office (COO) to oversee the air traffic control system. Executive Order 13180 (as amended June 4, 2002) officially created the ATO with the COO as its head. (See June 10, 2003; February 8, 2004.)

November 20, 2003: FAA announced that 86 percent of workers belonging to the National Association of Air Traffic Specialists (NAATS) had approved a new, five-year collective bargaining agreement between the union and the FAA.

November 26, 2003: Effective this date, an FAA rule allowed RVSM flights in the airspace over the contiguous 48 States of the United States, the District of Columbia, Alaska, that portion of the Gulf of Mexico where FAA provided air traffic services, the San Juan Flight Information Region (FIR), and the airspace between Florida and the San Juan FIR. The RVSM program would permit 1,000-foot vertical separation at certain altitudes between aircraft that meet stringent altimeter and autopilot performance requirements. The rule required any aircraft equipped with TCAS II and flown in Reduced Vertical Separation Minima (RVSM) airspace to incorporate a version of TCAS II software that was compatible with RVSM operations. (See October 22, 2003; January 20, 2005.)

December 9, 2003: FAA and the National Air Traffic Controllers Association (NATCA) signed a two-year contract extension that expanded pay-for-performance to include air traffic controllers and provided potential savings of several million dollars. The contract extension increased the number of agency employees whose pay was tied partly to performance from 37 percent to 75 percent. The pay for performance compensation system for over 15,000 air traffic controllers was based on safety and capacity targets set forth in FAA's strategic Flight Plan. The targets included reducing operational errors and runway incursions and increasing on-time performance and arrival efficiency rates. FAA and the union also agreed that, when a provision binding FAA to maintain a fixed number of controllers each year expired at the end of September, the agency could adjust staffing levels based on actual workload. This contract action was initiated following direction from Congress and the Department of Transportation Inspector General to exert greater cost control over air traffic control operations. The current contract was ratified in 1998. FAA expected to begin negotiations on a new agreement with NATCA in early 2005. (See January 7, 2003; July 13, 2005.)

December 12, 2003: President George W. Bush signed the Vision 100 – Century of Aviation Reauthorization Act (Public Law 108-176). The Act abolished the air traffic services subcommittee of the federal aviation management advisory council and created, separate from the council, an Air Traffic Services Committee (ATSC). The ATSC was given substantial governmental authority, including the power to approve the FAA's strategic plan for the air traffic control system, to approve certain large procurements, to appoint and determine the pay of the FAA chief operating officer, to dictate major FAA reorganizations, and to control FAA cost accounting and financial management structure. The legislation also endorsed the concept of the Next Generation Air Transportation System (NextGen) and directed Department of Transportation to create a Joint Planning and Development Office to facilitate the process. The legislation also provided funding for the Airport Improvement Program (AIP) from FY 2004 through FY 2007. The act also changed the basic requirements and guidelines under which FAA implemented AIP, including numerous provisions to assist smaller airports and to streamline the environmental review of airport projects. (See January 27, 2004.)

December 25, 2003: Runway 17L/35R opened at Orlando International Airport.

## 2004

January 21, 2004: Department of Transportation Secretary Norman Mineta announced a new order intended to reduce flight congestion and passenger inconvenience at Chicago's O'Hare International Airport. Under terms of the order signed by FAA administrator Marion Blakey, both American and United agreed to reduce their operations during the peak hours between 1 p.m. and 8 p.m. by five percent. The reduction of 62 scheduled flights, which took effect in early March and lasted for six months, returned scheduled O'Hare operations to October 2003 levels, the last month prior to significant delays. (See April 21, 2004.)

January 27, 2004: In a luncheon speech to the Aero Club of Washington, Secretary Mineta announced plans for a new, next generation air transportation system with expanded capacity to relieve congestion, prevent gridlock, and secure America's place as global leader in aviation's second century. An inter-agency plan, NextGen would offer a cleaner, quieter system based on 21<sup>st</sup>-century technology, seamless security, and added capacity to relieve congestion. (See December 12, 2003; December 15, 2004.)

January 28, 2004: FAA Administrator Marion Blakey dedicated a new FAA Center of Excellence, the Partnership for Air Transportation Noise and Emissions Reduction.

January 30, 2004: FAA Administrator Marion Blakey submitted a final proposal for the National Air Traffic Controllers Association (NATCA) multi-unit contract, along with the union's objections, to Congress seeking help in resolving the issue. The NATCA contract represented about 1,900 employees – mostly administrative personnel in budget, regional accounting and logistics, regional airports, plus some engineers and nurses. Over the previous several months, there had been attempts on both sides to seek outside help to break the impasse, but when those failed, the next step for FAA – according to procedures established in the agency's personnel reform legislation dating from the mid-1990s – was to submit its recommendations to Congress for action within 60 days. If the legislators failed to respond within that time, FAA could implement its own proposal. (See July 10, 2005.)

February 8, 2004: FAA's new ATO officially began operations. The fundamental realignment gave the ATO responsibility for providing air traffic services, research and acquisition, as well as for the free flight organizations. The change came after a decades-long attempt by previous administrations, Congress, and FAA to improve the delivery of air traffic services by adopting business-like practices. (See November 18, 2004.)

February 10, 2004: FAA published a final rule in the *Federal Register* modifying 14 Code of Federal Regulations (CFR) Part 158 to change the amount and the basis for compensation to air carriers collecting, handling, and remitting Passenger Facility Charges.

February 29, 2004: Effective this date, FAA revised its regulations for landing under instrument flight rules to allow aircraft to operate below certain specified altitudes during instrument approach procedures, even when the airport environment was not visible using natural vision, if the pilot used certain FAA-certified enhanced flight vision systems.

February 29, 2004: Department of Transportation Secretary Norman Mineta visited Mitchell International Airport in Milwaukee, Wisconsin, to introduce a new air traffic control technology and reiterate the Administration's commitment to improvements aimed at reducing airspace congestion nationwide. The airport was the first to receive ASDE-X, a new radar that provided complete, up-to-the-minute map of all airport operations that controllers used to spot potential collisions and ensure aviation safety on the ground. (See October 24, 2000; August 8, 2007.)

March 2, 2004: A new FAA-developed tool to predict in-flight icing became operational. Using the web-based forecast icing tool, aviation meteorologists and airline dispatchers could warn pilots about icing hazards up to twelve hours in advance.

March 18, 2004: FAA canceled the Next Generation Air/Ground Communications (NEXCOM) rapid prototype development contracts with ITT Industries and Harris Corp. FAA previously canceled a full-scale NEXCOM development contract that had not yet been awarded. FAA said it canceled the contracts because there was disagreement on global standards. FAA and EUROCONTROL agreed in 2003 to study what the next-generation air traffic control voice communication system should be. (See February 5, 2003.)

March 24, 2004: Department of Transportation Secretary Norman Mineta announced a series of steps aimed at reducing potential gridlock and delays during the up-coming peak travel periods of spring and summer. The steps included the creation of new air traffic express lanes, within many of the nation's most heavily congested routes. The measures were developed earlier in the month at a three-day conference called "Growth without Gridlock." Hosted by FAA, the conference brought together more than 60 participants from major and regional airlines, business aviation, pilot organizations, and industry associations to develop a common strategy to reduce system delays.

March 25, 2004: Department of Transportation Secretary Norman Mineta announced the establishment of an office to provide independent safety oversight of the Air Traffic Organization. The office's primary responsibility was to ensure the safety of changes to air traffic standards and procedures. The creation of the new Air Traffic Safety Oversight Service, based within FAA regulation and certification organization, followed a recommendation of the 1997 National Civil Aviation Review Commission chaired by Secretary Mineta. On November 1, 2001, the International Civil Aviation Organization (ICAO) required that its member states, including the U.S., set up independent oversight of air traffic operations. Canada, Great Britain, and Germany were among the ICAO states transitioning to similar systems.

April 1, 2004: FAA issued the world's first license for a sub-orbital manned rocket flight. The license was issued to Scaled Composites of Mojave, California, headed by aviation



record-holder Burt Rutan, for a sequence of sub-orbital flights spanning a one-year period. The FAA sub-orbital space flight license was required for U.S. contenders in the X-Prize competition, a high-stakes international race ultimately to launch a manned, reusable private vehicle into space and return it safely to Earth. The X-Prize foundation would award \$10 million to the first company or organization to launch a vehicle capable of carrying three people to a height of 100 kilometers (62.5 miles), return them safely to Earth, and repeat the flight with the same vehicle within two weeks. *April 23*, FAA announced it had issued a second license for a manned sub-orbital rocket flight to XCOR Aerospace Inc. of Mojave, California, which sought to develop a passenger carrying space vehicle for adventure travelers in the future. *June 21*, SpaceShipOne reached a record altitude of 328,491 feet (approximately 62 miles), making pilot Mike Melville the first civilian to fly a spaceship out of the atmosphere. *September 29, 2004*, Melville successfully reached suborbital space for a second time. *October 4*, Brian Binnie successfully flew the second orbital flight in the prescribed timeframe. The X-Prize foundation awarded its \$10 million prize to Scaled Composites for being the first company to launch a vehicle capable of carrying three people to a height of 100 kilometers (62.5 miles), return them safely to Earth, and repeat the flight with the same vehicle within two weeks. (See April 3, 2002; July 2, 2004.)

April 6, 2004: FAA, in partnership with the U.S. Trade and Development Agency and U.S. aviation manufacturers and suppliers, launched the U.S.-China Aviation Cooperation Program to expand relations and cooperation with Chinese counterparts. (See June 22, 2007.)

April 21, 2004: Department of Transportation Secretary Norman Mineta announced plans by United and American Airlines to reduce their daily schedules by another 2.5 percent starting in early June, making this the second time the airlines had trimmed their schedules to help reduce congestion at O'Hare. Both airlines rescheduled the majority of targeted flights to slower times of the day, but each also canceled some operations. (See January 21, 2004; August 4, 2004.)

April 30, 2004: President George W. Bush signed legislation into law renaming the two downtown office buildings that housed FAA after the inventors of powered, sustained, controlled flight, Orville and Wilbur Wright. The measure, approved by Congress earlier in the year, renamed the agency's Federal Building 10-A at 800 Independence Ave., SW, the Orville Wright Federal Building, and Federal Building 10-B at 600 Independence Ave., SW, as the Wilbur Wright Federal Building. *July 8*, FAA headquarters buildings were officially renamed the Orville and Wilbur Wright buildings.

May 24, 2004: FAA dedicated a new, state-of-the-art airport traffic control tower at Sea-Tac International Airport. At 233 feet high, the new tower was more than twice the height of the old tower, built in 1949.

May 2004: FAA released a screening information request (SIR) for the Automated Flight Service Station public-private competition under OMB's A-76 recommendations to improve government efficiency and cost savings through commercialization of certain

government operations. Per the announcement, potential service providers would be required to submit technical proposals in August 2004 and cost proposals in September 2004. The agency planned to award the contract by March 17, 2005. (See February 1, 2005.)

June 24, 2004: Secretary of Transportation Norman Mineta released *Capacity Needs in the National Airspace System: An Analysis of Airport and Metropolitan Area Demand and Operational Capacity in the Future*, predicting which airports and communities would need to expand their capacity by the year 2020. The capacity study was the first of its kind to look at current air travel patterns, economic and population trends, current air service, and current capacity. The associated report revealed that 23 of the nation's fastest growing airports needed to add capacity to accommodate air traffic growth over the next two decades.

June 30, 2004: FAA announced a \$13.5 million contract award to Computer Sciences Corporation (CSC) to upgrade the automated system used to ensure the most efficient flow of the nation's air traffic. Under the traffic flow management modernization contract, CSC would design an advanced computer platform that used air traffic data from across the country to predict when the numbers of flights might exceed available routes and capacity. FAA would use this information both to run special programs designed to reduce delays due to severe weather and congestion and to help airlines to provide more accurate flight departure and arrival information to their passengers.

June 30, 2004: The Oakland Air Route Traffic Control Center began started using Advanced Technologies and Oceanic Procedures (ATOP). The new system allowed controllers to reduce separation between aircraft on oceanic routes, and gave pilots greater flexibility to choose their own routes. Oakland was the first of three en route centers handling oceanic operations to use ATOP. (See May 24, 2001; June 23, 2005.)

July 2, 2004: FAA announced it had issued a license to create, at the Mojave Airport in California, the first inland commercial space launch site, and the fifth licensed commercial spaceport, in the U.S. With this announcement, East Kern Airport District could operate the Mojave site in support of suborbital reusable launch vehicle missions. (See April 1, 2004; December 23, 2004.)

July 22, 2004: In its final report, the commission established to investigate the September 11, 2001, terrorist attacks criticized FAA's response and preparedness. The commission, however, acknowledged that agency employees adapted quickly to the crisis. (See October 15, 2003.)

July 30, 2004: FAA extended the date – from December 6, 2004 to December 16, 2008 – for operators to comply with special maintenance program requirements for transport airplane fuel tank systems. The action was intended to allow operators enough time to incorporate revisions into their maintenance programs, after having learned of required fuel tank systems maintenance programs from those who hold design approval. (See November 23, 2002; November 14, 2005.)

August 4, 2004: FAA Administrator Marion Blakey told the carriers serving O'Hare Airport that, if a voluntary approach to reducing their schedules at O'Hare did not work, FAA would use its statutory authority to impose a solution. The agency advised that relaxing schedules would help ease the congestion and reduce delays that started at O'Hare and then rippled throughout the system. (See April 21, 2004; August 18, 2004.)

August 5, 2004: Runway 6L/24R opened at Cleveland Hopkins International Airport.  
August 18, 2004: Department of Transportation Secretary Norman Mineta announced that domestic airlines serving O'Hare had agreed to a voluntary limit of 88 scheduled arrivals per hour between 7 a.m. and 8 p.m. The new limit on scheduled arrivals during peak hours, effective November 1, brought schedules more in line with O'Hare's capacity and was expected to cut the amount of time lost due to delays by 20 percent. The agreement, the result of talks directed by Secretary Mineta and chaired by FAA Administrator Marion Blakey, was expected to cut delay times by imposing a limit on new flights that airlines planned to add in November. United and American Airlines, which were then operating 86 percent of flights at O'Hare, offered the largest reductions. United agreed to reduce 20 arrivals while American canceled 17 incoming flights scheduled between noon and 8:00 p.m. Other airlines with fewer operations also agreed to reduce or change schedules to cut delays. (See August 4, 2004.)

September 1, 2004: Effective this date, FAA began certifying sport pilots and their aircraft. The rule encompassed manufacture, certification, operation, and maintenance of light-sport aircraft that weighed less than 1,320 pounds (1,430 pounds for aircraft intended for operation on water) and were heavier and faster than ultralight vehicles. The rule included airplanes, gliders, balloons, powered parachutes, weight-shift-control aircraft, and gyroplanes. (See February 5, 2002.)

September 22-23, 2004: FAA Administrator Marion Blakey hosted the first FAA international safety forum for government and industry leaders to improve communication and provide solutions to improving aviation safety worldwide. The program became the first in a series of annual meetings.

September 24, 2004: FAA and EUROCONTROL signed a memorandum of cooperation to increase joint air traffic management and research efforts to improve safety, capacity, and standards of air traffic operations between North America and Europe.

October 13, 2004: The President signed into law the Emergency Supplemental Appropriations for Hurricane Disaster Assistance Act, 2005 (Public Law 108-324) as part of the FY 2005 Military Construction Appropriations Act. The law authorized emergency capital funding to compensate airport sponsors for capital costs for replacement or repair of public-use facilities directly related to damage caused by Hurricanes Charley, Frances, Ivan, and Jeanne.

October 26, 2004: FAA started using a new landing procedure, known as the simultaneous offset instrument approach, to help cut delays at San Francisco International

Airport. Taking advantage of an advanced radar system that was nearly five times faster than conventional airport radar, this procedure allowed up to a 25 percent increase in the number of arrivals during overcast conditions. Because air traffic controllers could get a much more precise fix on approaching aircraft, the change enabled two arriving planes to fly above and then through the clouds at different angles without compromising the safe separation standards required during overcast conditions. Once the aircraft moved under the cloud deck, the planes were to fly a visual, parallel approach to the airport's two runways.

November 8, 2004: The Association for Strategic Planning, a California-based professional association dedicated to advancing strategic thought, development, and practice awarded the FAA Flight Plan 2004 2008 its 2004 Richard Goodman Strategic Planning Award for continuing excellence in stimulating innovation in the planning process. (See September 30, 2003.)

December 15, 2004: Department of Transportation Secretary Norman Mineta unveiled the *Integrated Plan for the Next Generation Air Transportation System*. This a long-term strategic business plan that laid out goals, objectives, and requirements in eight specific areas: airport infrastructure development; security; the air traffic system; information technology; safety management; environmental stewardship; weather forecasting; and global collaboration. The development of innovative public-private partnerships was a key component to the entire effort. Under the direction of Secretary Mineta and an executive-level policy committee, and with 2025 in mind, six government agencies and representatives from the private sector worked to direct and coordinate research, identify and resolve critical policy issues, and invest in necessary infrastructure and technology. A Joint Planning and Development Office would coordinate the transformation effort. In 2003, Congress established a charter to create NextGen by the year 2025 and established a multi-agency committee to carry out the plan to include the Department of Transportation, FAA, NASA, Departments of Transportation and its Federal Aviation Administration, the National Defense, Commerce, and Homeland Security, and the White House Office of Science and Technology Policy. (See January 27, 2004; July 18, 2006.)

December 16, 2004: FAA Administrator Marion Blakey announced a revised presidential policy on the global positioning system (GPS). The new policy strengthened interagency management of GPS, with a National Executive Committee co-chaired by the Deputy Secretaries of Defense and Transportation. In terms of civil aviation, the policy made it clear that the U.S. remained firmly committed to provide a robust GPS signal free of direct user chargers. The policy directed the Departments of Defense and Transportation to ensure that GPS civil services exceed or at least be equivalent to services provided by the European Galileo system.

December 21, 2004: FAA released its "10-Year Strategy for the Air Traffic Controller Workforce," a staffing plan that called for hiring 12,500 controllers over ten years to cover projected total retirement and non-retirement controller losses. The level of hiring reflected the required lead time for training and maintained the appropriate ratio between developmental and fully certified controllers. The plan also outlined the expedited

training actions FAA would initiate to ensure there were enough recruits in the pipeline to replace the more than 11,000 controllers expected to leave the agency between 2005 and 2014. (See August 24, 2006.)

December 23, 2004: President George W. Bush signed the Commercial Space Launch Amendments Act of 2004 (Public Law 108-492). The legislation gave FAA authority to regulate manned suborbital flight. (See July 2, 2004; February 11, 2005.)

December 29, 2004: Effective this date, the FAA and Research and Special Programs Administration (RSPA) banned cargo shipments of non-rechargeable lithium batteries aboard passenger flights, saying these batteries posed a fire hazard when transported in the cargo hold of passenger aircraft. Airline passengers were allowed to carry on board and use, or pack in checked bags, personal computers and other consumer products that contain lithium batteries. The ban applied to all U.S.-carrier flights and those of foreign carriers into and out of the United States.

## 2005

January 20, 2005: At 4:01 a.m. eastern standard time, air traffic controllers inaugurated Reduced Vertical Separation Minima (RVSM), a new procedure designed to allow aircraft to fly more direct routes at the most fuel-efficient altitudes, saving time and money for airlines and travelers alike. Controllers began directing planes to fly 1,000 feet above and below each other at altitudes of 29,000 feet to 41,000 feet. Although invisible to passengers, the procedural change doubled airspace routes at the affected altitudes and greatly increased the routing options available to pilots and air traffic controllers. Before commercial airlines and other aviation users could take advantage of RVSM, FAA would first determine if their aircraft were properly equipped. Canadian, Mexican, Caribbean, and South American civil aviation authorities also began RVSM on this date. (See November 26, 2003.)

February 1, 2005: FAA announced selection of a team headed by Lockheed Martin to take over services provided currently by the agency's automated flight service stations. The total evaluated cost of the five-year contract, with five additional option years, was \$1.9 billion and represented estimated savings of \$2.2 billion over the next ten years. After careful review, FAA had formally announced in December 2003 that its flight service stations met the criteria for competitive sourcing and that it would conduct a competition under OMB's Circular A-76 guidelines for an improved way to provide flight service operations. FAA then evaluated five competing service providers, including the incumbent government organization, to determine the best value to the government for the delivery of effective services to support safe and efficient flight. Lockheed Martin assumed operation of the flight service stations in October 2005. Incremental consolidation of the 58 current flight service stations would begin in April 2006 and was expected to result in 20 sites by the end of March 2007. *October 4*, the responsibility for flight services transitioned seamlessly from FAA to Lockheed Martin. (See May 2004.)

February 1, 2005: Citing FAA's high priority on cost accounting and the routine use of such information in FAA decision making, GAO announced it had removed the agency from its high risk list for financial management.

February 2, 2005: A Bombardier Challenger CL-600-1A11, during takeoff, ran off the departure end of runway 6 at Teterboro Airport, in New Jersey. The aircraft continued through an airport perimeter fence, crossed a six-lane highway, struck a vehicle, entered a parking lot, and finally impacted a building. The two pilots were seriously injured, as were two occupants in the vehicle. The cabin aide, eight passengers, and one person in the building received minor injuries. *October 31, 2006*, the National Transportation Safety Board determined that the probable cause of the accident was the flight crew's failure to ensure the airplane was loaded within weight and balance limits compounded by their attempt to take off with the center of gravity beyond the aircraft's forward takeoff limit. This improper weight distribution prevented the airplane from achieving the required rotation speed.

February 11, 2005: FAA released draft safety guidelines for space tourism, in anticipation of developing final regulations no later than June 2006. The draft guidelines would require a reusable launch vehicle operator to inform space tourists, in writing, about the safety record of the vehicle they would fly on and compare that record with those of other manned space vehicles. After being given time to ask questions about the risks of flight, passengers would be required to provide written consent prior to flight. Each passenger also would receive safety training on how to respond to any credible emergency situations – which were likely to include cabin depressurization, fire, smoke, and emergency egress. (See December 23, 2004; June 1, 2005.)

February 24, 2005: FAA proposed a series of significant upgrades to aircraft "black boxes" that would increase the quality, quantity, and survivability of recorded data. The notice of proposed rulemaking would require installation of more rugged flight data recorders and cockpit voice recorders designed to give accident investigators more information. The new rules – which would apply to air carriers, other operators, and aircraft manufacturers – would increase the duration of recordings, increase the data recording rate of certain digital parameters, and improve the reliability of the power supply. All data-link messages sent to an aircraft would have to be recorded, and operators would be required to retrofit all aircraft equipped with ten or more seats. (See August 18, 2003.)

March 23, 2005: FAA published a final rule in the *Federal Register* regarding the Non-Hub Pilot Program and related changes to Part 158 mandated by Vision 100 – Century of Aviation Reauthorization Act.

March 28, 2005: FAA formally delayed – until April 6, 2006 – the deadline by which Part 145 repair stations must establish an approved training program. FAA called the one-year delay necessary because the agency had not yet released guidance material to help repair stations develop appropriate training programs.

April 1, 2005: FAA proposed a rule that would require operators of more than 800 Boeing aircraft registered in the U.S. to replace or modify certain insulation blankets over the next six years. Aircraft insulation blankets protect the passengers and crew from engine noise and frigid temperatures at high altitudes. The discovery that some insulation blankets coated with a film called AN-26 no longer met the standards for preventing the spread of fire had prompted the proposed airworthiness directive. (See September 2, 2003.)

April 25-26, 2005: FAA began a two-day forum with aviation industry representatives to discuss changing the way FAA was funded. The agency wanted to initiate debate on a variety of funding alternatives. At the time, FAA was drawing much more of its annual budget from the aviation trust fund than from the government's general fund. The aviation trust fund, however, was due for congressional reauthorization in 2007. Attendance at the forum was by invitation only, and media were not admitted. Department of Transportation Secretary Norman Mineta, FAA Administrator Marion Blakey, Department of Transportation Inspector General Kenneth Mead, and other FAA officials addressed the forum. Representatives of other countries' aviation systems talked about their own funding models. One funding proposal under consideration was allowing FAA raise public debt to replace and modernize aviation infrastructure.

May 2005: The Supreme Court declined to hear a case brought by a group of pilots against FAA. In *Dallas E. Butler et al., Petitioners v. FAA*, 12 Southwest pilots challenged a FAA rule dating to 1960 that grounded Part 121 airline pilots at age 60, arguing that FAA should consider the health and skills of each pilot.

June 1, 2005: FAA proposed adding procedures for obtaining a voluntary safety approval to its commercial space transportation regulations. If the agency raised no objection to its launch vehicle, reentry vehicle, safety system, process, service, or personnel, the safety approval holder could then offer its equipment or personnel to prospective launch and reentry licensees for use within a defined and proven envelope. (See February 11, 2005; December 29, 2005.)

June 23, 2005: FAA announced that the Advanced Technologies and Oceanic Procedures (ATOP) system was operational at the New York Air Route Traffic Control Center. The ATOP system provided safe separation of aircraft in areas, such as over the ocean, that were outside radar coverage or direct radio communication. It detected conflicts between aircraft and provided satellite data link communication and position information to air traffic controllers. ATOP also reduced the workload on controllers through the use of electronic flight strips instead of the labor-intensive paper strip method used for decades to track trans-oceanic aircraft. *October 31*, ATOP became operational at the Oakland, California, air route traffic control center. (See June 30, 2004; April 3, 2007.)

June 2005: FAA directed inspectors to increase oversight of Part 135 operations to ensure that those using a "d/b/a" or "doing-business-as" name were doing so properly and complying with regulations. A five-page notice issued to all Part 135 principal operations inspectors clarified the use of a d/b/a and focused attention on who had operational

control of an aircraft. FAA issued the notice to address concerns that arose during the investigation of the Challenger runway overrun accident at Teterboro, New Jersey airport in February 2005.

July 10, 2005: Following an unsuccessful three-year bargaining process, with two years of negotiations, FAA implemented its final contract proposal with National Air Traffic Controllers Association (NATCA) multi-unit employees. The contract covered about 1,900 employees from ten smaller union groups that included engineers, inspectors, accountants, nurses, administrative employees, and computer specialists. Unable to reach a voluntary agreement in 2004, the parties had called on the Federal Mediation and Conciliation Service (FMCS). When the FMCS could not remove the impasse, NATCA had sought relief from the Federal Service Impasse Panel. On January 9, 2004, the impasse panel had elected not to assert jurisdiction. FAA had forwarded the contract stalemate to Congress on January 30, 2004. Under the law, Congress had the power either to resolve the stalemate or, by default, allow the agency to implement its final proposal. (See January 30, 2004; July 18, 2007.)

July 13, 2005: FAA and the National Air Traffic Controllers Association began contract negotiations. (See December 9, 2003; November 28, 2005.)

July 29, 2005: Effective this date, FAA terminated a program that had assigned controllers, full-time, at the agency headquarters to provide controller liaison and feedback on modernization programs.

August 1, 2005: FAA requested the air traffic control towers at all airports to assess their current need to use the taxi into position and hold procedure. This procedure was designed to allow aircraft to taxi onto a runway and hold while awaiting clearance from the tower. Facilities needing to employ the procedure were asked to confirm and verify that operational requirement.

August 4, 2005: Effective this date, FAA adopted a new noise standard to ensure that the latest available noise reduction technology was incorporated into new aircraft designs for subsonic jet airplanes and subsonic transport category large airplanes. The new standard, stage 4, was to apply obligatorily to any entity submitting an application for a new airplane type design on and after January 1, 2006, and could be applied voluntarily prior to that date. This noise standard was intended to provide uniform noise standards for stage 4 airplanes being certified in the United States as well as for airplanes that met Annex 16, Chapter 4 of the noise standard published by the International Civil Aviation Organization.

August 11, 2005: Effective this date, a special federal aviation regulation (SFAR) allowed passengers to use certain portable oxygen concentrator devices on aircraft, provided certain conditions were met. The rule required passengers to carry the devices on board and mandated a battery-packaging standard necessary for the safe carriage of extra batteries in carry-on baggage.



August 25, 2005: FAA announced that it would not mandate the use of child safety seats on airplanes. The agency explained that its analyses showed that, if forced to purchase an extra airline ticket, families might choose to drive to their destination, a statistically more dangerous way to travel. (See September 26, 2005.)

August 29, 2005: Hurricane Katrina, which had formed over the Bahamas on August 23, crossed southern Florida as a category 1 hurricane. It then strengthened in the Gulf of Mexico, made its second and third landfalls as a category 3 storm in southeast Louisiana and at the Louisiana/Mississippi state line. The storm surge caused severe damage along the Gulf Coast, closing all airports in the region. *September 1*, both runways at New Orleans International Airport were restored to 24-hour availability for hurricane relief flights, as FAA worked to repair air traffic control facilities at this and other airports hit by Katrina. FAA said New Orleans could handle nine landings per hour, but only in visual flight rule conditions. *September 2-7*, FAA personnel supported the largest airlift operation on United States soil, Operation Air Care. *September 8*, FAA restored scheduled, commercial passenger service to the Gulfport-Biloxi, Mississippi, airport, with two roundtrip flights originating from Memphis, Tennessee. *September 13*, FAA restored scheduled, commercial passenger service to Louis Armstrong New Orleans airport, with two roundtrip flights originating from Memphis.

September 9, 2005: FAA reissued a final rule, with a June 6, 2006 compliance date, creating a second-in-command (SIC) type rating. A requirement put forward by the International Civil Aviation Organization mandated the SIC rating for pilots engaged in international operations. When first released on August 4, 2005, this rule had carried an effective date of September 6, 2005.

September 18, 2005: Tropical Storm Rita formed over the Turks and Caicos Islands in the Caribbean and moved toward the Florida Keys. *September 20*, the tropical storm was recategorized as a hurricane, and FAA closed the air traffic control tower at the airport in Key West, Florida. *September 22*, FAA reopened the air traffic control tower in Key West. *September 24*, Hurricane Rita made landfall between Sabine Pass, Texas, and Johnsons Bayou, Louisiana, as a category 3 hurricane. The storm surge caused extensive damage along the Louisiana and extreme southeastern Texas coasts and completely destroyed some coastal communities. The Lake Charles Regional Airport in Louisiana and Beaumont-Port Arthur Airport in Texas closed because of damage. FAA instituted a temporary flight restriction along the Texas and Louisiana coast area to support relief and recovery operations. *September 26*, FAA opened its air traffic control tower at Beaumont-Port Arthur Airport in Texas for visual flight operations only. FAA resumed visual flight operations at the Lake Charles Regional Airport tower in Louisiana, and reopened the Terminal Radar Approach Control facility at the airport.

September 26, 2005: FAA officially opened its Early Dispute Resolution Center at FAA headquarters. Earlier in the year, the Administrator had announced plans to open such an office in response to low marks in the area of conflict management and resolution that the agency had received on the most recent employee attitude survey.

September 26, 2005: Secretary of Transportation Norman Mineta signed a Memorandum of Understanding between the Department of Transportation, FAA, and the National Academy of Sciences to establish the Airport Cooperative Research Program (ACRP). FAA funded ACRP at \$10 million per year from Airport Improvement Program funds to conduct research on problems shared by airports.

September 26, 2005: Effective this date, FAA amended its operating regulations to allow the use of FAA-approved child restraint systems (CRSs) on board aircraft. Current FAA regulations did not allow the use of CRSs other than those that meet specific standards for the automobile environment. (See August 25, 2005; September 2006.)

September 28, 2005: FAA issued the first airworthiness certificate for a civil unmanned aerial vehicle (UAV), the General Atomics Altair. The Altair's FAA airworthiness certificate was in the "Experimental" category and limited flights to research and development, crew training, or market survey. The agency specified a number of safety conditions for the Altair's operation – including weather, altitude, and geographic restrictions, as well as a requirement for a pilot and observer. FAA also collaborated with manufacturers to collect vital technical and operational data that would improve UAV regulatory processes. In addition, FAA asked RTCA, a group that frequently had advised the agency on technical issues, to help develop UAV standards.

October 3, 2005: FAA codified the requirements of the Advanced Qualification Program (AQP), provisions that had previously been contained in a Special Federal Aviation Regulation that expired on October 2, 2005. AQP would continue as an alternative regulatory program for airlines seeking more flexibility in training than the traditional training program allowed.

October 6, 2005: FAA proposed regulatory changes affecting wiring systems and fuel tank systems in transport category airplanes. First, to organize and clarify design requirements for wire systems, it proposed to create a single section of the regulations specifically for wiring and new certification rules and then move existing regulatory references to wiring into that section. It also proposed to require holders of type certificates for certain transport category aircraft to analyze their fleets and make the necessary changes to existing instructions for continued airworthiness that would improve maintenance procedures for their wire systems. (See August 16, 2001; December 10, 2007.)

October 7, 2005: President George W. Bush signed Public Law 109-87, which authorized the Secretary of Transportation to provide grants-in-aid for emergency repairs to airports damaged by Hurricanes Katrina and Rita. The law specified that such emergency aid be funded from FY 2005 and 2006 unobligated funds already appropriated to the Airport Improvement Program. The law also waived all federal matching fund requirements.

October 16, 2005: FAA migrated payroll responsibilities to the Department of Interior's Federal Personnel and Payroll System, the last of the Department of Transportation modal administrations to transition to the new service provider.

October 27, 2005: FAA implemented new air routes along the East Coast that cut flight delays and saved fuel. Called the Florida Airspace Optimization Plan, the new routes made significant changes to airspace controlled by air traffic control centers in Washington, Jacksonville and Miami, and various approach controls in Florida. The plan created more efficient routings from points north to Florida.

October 27, 2005: Runway 17/35 opened at Minneapolis-St. Paul International Airport.  
November 14, 2005: FAA proposed rules that, over seven years, would require retrofit of more than 3,200 existing, as well as manufacture of certain new large passenger jets, to reduce flammability levels of fuel tank vapors. The notice of proposed rulemaking would require aircraft operators to reduce the flammability levels of fuel tank vapors both on the ground and in the air to remove the likelihood of a potential explosion. Boeing 737, Boeing 747, and Airbus A320 models would be retrofitted first. (See July 30, 2004.)

November 14, 2005: Effective this date, FAA established the Organization Designation Authorization (ODA) program. The ODA program expanded the scope of approved tasks available to organizational designees; increased the number of organizations eligible for organizational designee authorizations; established a more comprehensive, systems-based approach to managing designated organizations; and set phase-out dates for then-current organizational designee programs.

November 28, 2005: FAA Administrator Marion Blakey called for federal mediation to help the agency reach a voluntary contract agreement with the air traffic controllers union. FAA's request, hand-delivered to the National Air Traffic Controllers Association, sought help from the Federal Mediation and Conciliation Service to reach a voluntary agreement after four and a half months of negotiations. FAA's contract proposal maintained the base-pay of in-service controllers while still taking steps to bring in new hires at a lower pay scale – one that narrowed the pay gap between controllers and the rest of FAA's safety focused employees. While the existing contract had technically expired on September 30, a clause had allowed it to remain in place so long as talks had continued. (See July 13, 2005; April 3, 2006.)

December 5, 2005: Russ Chew, chief operating officer of the FAA's Air Traffic Organization (ATO), announced the restructuring of ATO administrative and support functions in the field. The number of service areas was reduced from nine to three and flight service areas from three to two. By eliminating duplication of administrative and support services, the agency expected to reduce the ATO's operating costs by an estimated \$360-\$460 million over the next ten years. (See June 26, 2006.)

December 7, 2005: FAA announced it had completed deployment of a new mission-critical communications gateway that processed radar and flight data in all 20 en route air traffic control centers. Called the En Route Communications Gateway (ECG), the system consolidated all gateway functions into a single system. It provided the foundation to support new communications sources and new radar/surveillance sources, such as ADS-B. The design of the new system also allowed for easy integration with FAA's En Route Automation Modernization (ERAM) program, a key element in the agency's overall air traffic modernization effort. The ECG replaced the Peripheral Adapter Module

Replacement Item (PAMRI), using modern communications protocols and modular, scalable hardware components. PAMRI was a single point of failure in the en route air traffic control infrastructure. The first ECG went operational in Seattle in 2003. The final site to go operational was Miami in October 2005. (See June 11, 2001.)

December 19, 2005: A Grumman Turbo Mallard amphibious airplane, on a regularly scheduled passenger flight to Bimini, Bahamas, experienced an in-flight separation of its right wing from the fuselage and crashed into the shipping channel adjacent to the Port of Miami shortly after takeoff. Two flight crewmembers and 18 passengers on board were killed; the airplane was destroyed by impact forces. *May 30, 2007*, the National Transportation Safety Board determined the probably cause of the crash was the failure and separation of the right wing, which resulted from the failure of Chalk's Ocean Airways' maintenance program to identify and properly repair fatigue cracks in the wing, and the failure of FAA to detect and correct deficiencies in the company's maintenance program.

December 20, 2005: FAA announced the inception of a new navigation procedure at Ronald Reagan Washington National Airport. The Required Navigation Performance (RNP) initiative took advantage of a plane's onboard navigation capability to fly a more precise flight path into the airport. The Reagan National RNP approach to Runway 19 allowed planes to land with considerably lower cloud ceilings and visibility than previously required. The procedure was used by any operator who could meet specific FAA requirements for aircraft navigation performance and pilot training. Alaska Airlines, the first air carrier authorized by FAA to use the RNP procedures at Reagan National, had pioneered the use of RNP procedures at Juneau and other airports in Alaska. Besides introducing the new procedure at Reagan National, FAA authorized RNP procedures at Juneau, Alaska; San Francisco and Palm Springs, California; Portland, Oregon; and Hailey (Sun Valley), Idaho. (See July 25, 2003; July 2006.)

December 22, 2005: Runway 18R/36L opened at Cincinnati/Northern Kentucky International Airport.

December 29, 2005: In response to the requirements of the Commercial Space Launch Amendments Act of 2004, FAA proposed rulemaking to affect human space flight of crew and space flight participants. If adopted, the proposed rule would establish requirements for crew qualifications, training, and notification. It also would establish training and informed consent requirements for space flight participants. The regulation would also modify how financial details affecting space flight participants and crew would be accounted for and, though an additional regulation, how experimental permits would be issued. (See June 1, 2005; August 25, 2006.)

## 2006

January 3, 2006: The Federal Service Impasse Panel ruled that contract negotiations between FAA and its systems technicians would begin on February 6 and continue through July 21. The contract between FAA and the Professional Airways Systems

Specialists expired in July 2005, but no new negotiations had begun because the agency and the union could not agree on a timetable. (See March 30, 2006.)

January 11, 2006: FAA withdrew a rule that would ease Part 121 oxygen requirements after the National Transportation Safety Board warned the rule was based on faulty data and could jeopardize safety. In November 2005, FAA had raised the altitude, to flight level 350, at which a pilot must put on an oxygen mask when the other pilot left the control station. With the rescinding of this less rigorous requirement, pilots left alone at the controls were still required to use their masks at altitudes above flight level 250.

January 30, 2006: FAA announced that an international financial and accounting services firm validated the agency's calculation that the average 2005 air traffic controller compensation package exceeded \$166,000. Other independently validated figures revealed that, between 1998 and 2005, controller compensation had increased by 75 percent and the wage gap between controllers and all other FAA employees had doubled. Cost data used to reach these wage determinations were also independently shown to be consistent with the agency's accounting system and its audited financial statements. FAA had begun contract negotiations with the union on July 13, 2005. The existing contract had expired on September 30, 2005, but an evergreen clause had allowed the original contract to remain in place so long as talks were ongoing. (See November 28, 2005; April 3, 2006.)

March 1, 2006: Effective this date, U.S. parties interested in transmitting certain types of financial interests (or prospective interests) to the international aircraft registry had to file a completed FAA entry point filing form (International Registry, AC Form 8050-135) with FAA. Upon receipt of the completed form, FAA would issue a unique authorization code. With the establishment of the new international aircraft registry, it was no longer sufficient for U.S. aircraft buyers or sellers to conduct searches and file documents only with FAA; they now also had to conduct searches and register interests in aircraft and high-value engines at the new international registry.

March 10, 2006: The Aeronautical Repair Station Association (ARSA) challenged FAA in federal court over the legality of the agency's changes to its drug- and alcohol-testing regulations. ARSA filed a petition for review with the U.S. Court of Appeals for the D. circuit, claiming the updated testing regulations represented an "unnecessary burden that provides no aviation safety-related benefits." The court filing argued that FAA violated several federal statutes, including the Administrative Procedure Act and the Regulatory Flexibility Act. Two repair stations and a non-certified maintenance provider joined the filing.

March 24, 2006: FAA announced that, within a year, use of the Wide Area Augmentation System (WAAS) would be extended to 200 feet above an airport's surface. WAAS, a satellite-based navigation system, was designed to improve the accuracy, availability and integrity of signals from global positioning system (GPS) satellites. WAAS was expected, eventually, to enable the agency to remove a portion of its existing ground-based navigation infrastructure, and thus reduce operational costs, while still improving

capacity and safety. Originally commissioned in July 2003, WAAS was initially approved to provide vertical guidance down to 350 feet. Localizer performance with vertical guidance procedures down to 250 feet was later developed to take advantage of the increased performance provided by WAAS. (See July 11, 2003; October 19, 2007.)

March 30, 2006: PASS accepted FAA's contract proposal. However, the union's bargaining team made it clear to FAA that, although it did not think the agency's offer was fair or reasonable, it would leave the decision to its voting members. *August 3*, FAA system specialists voted to reject the agency's contract offer and called for the agency to return to the bargaining table. The Professional Airways Systems Specialists (PASS) union said its members rejected the contract by a margin of 98 percent. The rejection was anticipated because PASS had recommended that its members vote against the contract offer. Because PASS nominally accepted the FAA proposal as a tentative agreement, FAA had to await the conclusion of the voting process before taking any other action. (See January 3, 2006.)

March 2006: A U.S. Equal Employment Opportunity Commission judge ruled that controllers fired by President Reagan after the 1981 strike could proceed with a class action suit against FAA. Specifically, they could argue that age discrimination had prevented their rehiring. In the suit, the Professional Air Traffic Controllers Organization (PATCO) said FAA had not hired any PATCO controllers since 1999. Other discriminatory practices listed by PATCO included the use of separate applicant pools, and hiring quotas for PATCO members.

April 3, 2006: FAA and the National Air Traffic Controllers Association (NATCA) exchanged their final contract proposals. *April 6*, FAA declared that, as it had reached an impasse with the controllers union after nine months of contract talks, only congressional action could prevent the agency from imposing its latest contract offer without union agreement. *April 25*, FAA officially ended contract negotiations with NATCA. *June 5*, FAA announced it would begin imposing its preferred contract terms on the controller work force. Under existing statutory rulings, the agency could impose its contract terms if Congress were to fail to overturn the agency's proposal within a 60-day window. FAA had sent its contract proposal to Congress in April and the deadline for congressional action was June 4. FAA Administrator Marion Blakey said that, although the previous contract was officially terminated as of the previous day before, the work and pay rules of that contract would remain in effect while the new rules were phased in. She also commented in a letter to employees that this transition process could take several months. (See November 28, 2005; August 2007.)

April 13, 2006: Runway 11/29 opened at Lambert-St. Louis International Airport.

May 16, 2006: Atlanta Hartsfield International Airport commissioned its fifth runway and dedicated its new 396 foot air traffic control tower.

May 20, 2006: Runway 10/28 opened at Hartsfield-Jackson Atlanta International Airport.

June 7, 2006: FAA posted an announcement in the *Federal Register* that all Federal Aviation Regulations, Part 121, 135 and 91(K) operators would be issued a new operations specification (Ops Spec) or management specification (MSpec) requiring completion of a new en route landing distance assessment for all their turbojet aircraft. This calculation was to take into consideration runway conditions and allow a full-stop landing, on a given runway, with at least a 15-percent safety margin beyond the actual landing distance – according to the conditions existing at the time of arrival, and with deceleration means and other conditions appropriate to the and airplane being used. The calculation was to be staged as close to the time of arrival as practicable. Previous regulations had only mandated that calculations such as these be made prior to the departure of the aircraft.

June 26, 2006: FAA instituted a new Air Traffic Organization service center unit. Three service centers replaced the nine service area offices within en route, terminal, and technical operations. Each of the service centers was made up of five functional groups: administrative services, business services, safety assurance, system support, and planning and requirements. A sixth group, engineering services, was a shared resource and remained in place in the existing locations. (See December 5, 2005.)

June 2006: FAA delayed until January 1, 2007, proposed changes in aircraft registration policies that would have severely limited the ability of aircraft owners to request "priority service" in connection with declarations of international flights. Citing an increasingly heavy workload and the observation that many operators routinely requested priority service even if it was really not needed, officials at FAA's aircraft registration organization sought to limit priority handling for international flights to one request per aircraft in any three-month period.

July 7, 2006: Effective this date, Department of Transportation Secretary Norman Mineta resigned his post. (See January 25, 2001; October 24, 2006.)

July 13, 2006: FAA announced plans to phase in a new program designed to reduce the number of flight delays and bring an estimated \$900 million in cost savings to the airlines and the flying public. The airspace flow program was designed to allow air traffic controllers to delay only those flights that were expected to encounter extremely bad weather. As a result, the program was expected to minimize the crippling effects of the sudden thunderstorms that frequently affected the nation's airspace system during the summer travel season. On a single severe weather day in this high peak season, thousands of flights often have been delayed, diverted or canceled, affecting hundreds of thousands of passengers and resulting in millions of dollars in operating losses for carriers.

July 18, 2006: FAA Administrator Marion Blakey and European Commission Vice President Jacques Barrot signed a memorandum of understanding (MOU) that secured enhanced cooperation toward building a more efficient and seamless air traffic system between Europe and the United States. The MOU focused on building administrative bridges between the United States' NextGen and the Commission's Single European Sky Air Traffic Management Research (SESAR) airspace modernization programs. In

addition to annual meetings and regular, informal communications between FAA and the Commission, the MOU formalized pre-existing exchanges for facilitating enhanced understanding of these international programs. The memorandum acknowledged the importance of participation by both European and U.S. industry in each other's air traffic modernization efforts. (See July 18, 2006; May 16, 2007.)

July 27, 2006: Eclipse Aviation won FAA provisional certification for the Eclipse 500 very light jet. (See April 2007.)

July 2006: FAA's performance-based operations aviation rulemaking committee, a government and industry group, released the second version of the "Roadmap for Performance-Based Navigation." The first road map, released in 2003, covered concepts and principles, but included very few details. The revised version spelled out how FAA planned to proceed in the near-term (2006-10), mid-term (2011-15), and far-term (2016-25), and outlined dates for mandates on the types of equipment that would be needed by the airlines, business aircraft, and general aviation operators. The near-term period focused on the investment aircraft operators had already made in avionics and FAA spending on satellite-based navigation. It included the wide-scale rollout of RNAV procedures, including the instrument departures and arrivals commissioned at airports such as Atlanta Hartsfield-Jackson International and Dallas-Fort Worth International. (See December 20, 2005; August 6, 2007; March 2007.)

August 24, 2006: FAA released an updated air traffic controller workforce plan designed to address the anticipated retirement and replacement of air traffic controllers over the coming decade. The revised document outlined the agency's plans to hire more than 11,800 new air traffic controllers over the next ten years. The plan was the first update to A Plan for the Future: The Federal Aviation Administration's "10-year Strategy for the Air Traffic Control Workforce," which FAA released in December 2004. The revised plan was based on updated traffic forecasts, experience with productivity increases, actual retirements, and improved mathematical models. As part of the revised plan, FAA planned to hire 930 controllers by the end of fiscal year 2006. The plan also addressed the broader need to hire more than 11,800 controllers over the next ten years based on the latest attrition and traffic growth modeling. It outlined how FAA would bring on new controllers using a schedule designed to provide adequate training lead-time and to address changing air traffic demands over the coming decade. In addition to the hiring schedule, the plan addressed steps the agency was taking to improve the training process for new controllers. (See December 21, 2004; March 7, 2007.)

August 25, 2006: FAA and U.S. Air Force Space Command issued new, common federal launch safety standards designed to create consistent, integrated space launch rules for the nation. The rule strengthened public safety by harmonizing launch procedures that identified potential problems early and by implementing a formal system of safety checks and balances. The new FAA regulations governed commercial launch operations at federal and non-federal launch sites. (See December 29, 2005; December 15, 2006.)

August 27, 2006: Comair Flight 5191 crashed at the Lexington Blue Grass Airport; 48 of the 49 people on board died in the crash. In pre-dawn darkness, the crew had turned the



aircraft onto a 3,500-ft. inoperative VFR-day Runway 26 instead of the 7,000-ft. departure Runway 22, a 40-degree heading difference. The aircraft had run out of concrete during the takeoff roll and crashed into a perimeter fence.

September 25, 2006: A report issued by the Department of Transportation Inspector General outlined a host of problems with FAA's "RESULTS" contracting program, but acknowledged that FAA had moved quickly to shut the program down. The audit was launched at the request of Senators Chuck Grassley (R-Iowa) and Tom Coburn (R-Oklahoma) after a whistleblower highlighted examples of waste and abuse. One of three such contracting programs used by FAA, RESULTS provided a list of 142 pre-qualified vendors to which the agency could award support contracts. Since its inception, the program had awarded more than 114 contracts with a potential value of \$543 million. The whistleblower uncovered abuse in one contract. The Office of the Inspector General widened its investigation to cover the entire program. The investigation found that because of inadequate program controls, labor costs were much higher than in other FAA contracting efforts. In addition, RESULTS contracts were awarded without sufficient competition or price analysis, and inadequate oversight of contract performance contributed to further cost overruns.

September 2006: FAA approved the first child safety harness that could be used on commercial aircraft. The harness, manufactured by AmSafe Aviation, incorporated belt and shoulder harnesses secured by straps around the seat back and attachments to existing lap belts. The harness was an alternative to hard-shelled child seats that were the only other child restraint parents could carry onto aircraft. (See September 26, 2005.)

September 2006: FAA issued full type certification to the Cessna's entry-level Citation Mustang, making it the first very light jet to achieve that goal.

October 24, 2006: Mary Peters was sworn in as the 15th Secretary of Transportation. (See July 7, 2006.)

October 30, 2006: FAA completed the deployment of the User Request Evaluation Tool (URET) at all 20 air route traffic control centers. URET was a conflict-detection tool that automatically detected and advised air traffic controllers of predicted conflicts between aircraft or between aircraft and other operational elements within the NAS. This strategic planning tool allowed controllers to create alternative conflict-free flight routings and to manage better the changing air traffic or weather conditions. (See May 6, 2002.)

November 23, 2006: Runway 14/32 opened at General Edward Lawrence Logan International Airport.

December 14, 2006: FAA announced that it had issued a type certificate for the double-decker Airbus A380 jet during a ceremony in Toulouse, France. Airbus applied to FAA for certification of the aircraft on August 12, 1998. The A380's size and complexity required FAA to extend its normal five year certification period for a large airliner to seven years to ensure the required standards of safety.

December 15, 2006: FAA issued final regulations for crew and spaceflight participants. The new regulations require a reusable launch vehicle (RLV) operator to inform space tourists, in writing, about the safety record of the vehicle they would fly in, and compare that record with those of other manned space vehicles. After being given time to ask questions about the risks of flight, passengers will have to provide written consent prior to the flight. Each passenger must receive safety training on how to respond to emergency situations – which include cabin depressurization, fire, smoke, and emergency egress. (See August 25, 2006; April 6, 2007.)

## 2007

January 30, 2007: In a luncheon speech at the National Press Club, FAA Administrator Marion Blakey proposed a rule change that would allow pilots to fly until they were 65 years of age. Under the proposal, if one pilot on a flight were older than 60, the other pilot in the cockpit would have to be younger than 60. This would be a change from the mandatory retirement age of 60, which had been in effect since 1960. Before this change could become official, FAA would have to issue a notice of proposed rulemaking and ask for public comment. The agency cautioned it could take years to pass new regulations. *December 11*, the House of Representatives approved a bill to let pilots fly until they reached the age of 65 provided they took medical tests twice a year. It also mandated that airlines must perform additional proficiency checks on pilots over 60. *December 12*, the Senate passed a similar bill allowing pilots to fly until age 65. The new law would take effect immediately if signed by President George W. Bush. (See December 13, 2007.)

February 14, 2007: FAA unveiled a proposal to finance its operations and air traffic control modernization through a complex system of user fees and fuel taxes, plus new authority to issue bonds. The proposal was included in a draft FAA reauthorization bill containing financial provisions would last for ten years and other provisions with a three-year life. In October 2008, after the first year of the reauthorization, the FAA would drop the current taxes and fees that provided revenue to the aviation trust fund – mainly a 7.5 percent excise tax on airline tickets. In place of these revenue sources, the agency it would initiate user fees that would raise 53 percent of its total budget; retain and increase fuel taxes that, with reduced international passenger taxes, would provide an additional 28 percent; and rely on the general fund – derived from government-wide taxes and other revenues – for the remaining 19 percent of the budget. Under the proposal, as the airline's share of revenues decreased, aviation's total business share, derived from fees paid by corporate operators, would grow. Additionally, general aviation would pay a higher fuel tax – raised from 20 cents to about 70 cents per gallon.

February 15, 2007: Effective this date, FAA established regulations governing the design, operation, and maintenance of certain airplanes that flew long-range, regularly scheduled commercial routes over remote areas. The rule changed the current limitations and opened routes for twin-engine passenger and cargo planes. It also set uniformly high standards for all commercial passenger planes flying routes more than three hours from an airport. The final rule codified FAA policy, industry best practices and recommendations, as well as international standards designed to ensure safety on long-

range flights. To ease the transition for current operators, this rule delayed the compliance dates pertaining to certain requirements applicable to Extended Range Operation with Two-engine Airplanes, or ETOPS. (See November 10, 2003.)

February 23, 2007: Russ Chew, FAA Air Traffic Organization Chief Operating Officer resigned from the agency. Administrator Marion Blakey assigned COO responsibilities to deputy administrator Robert Sturgell as collateral duties. (See June 10, 2003; October 1, 2007.)

March 7, 2007: FAA released an updated plan to hire air traffic controllers over the next ten years. The plan provided a range of authorized controller staffing numbers for each of the FAA's 314 staffed facilities across the country, giving the agency greater flexibility to match the number of controllers with traffic volume and workload. The agency had planned to hire and train more than 15,000 controllers over the next decade, and the updated plan called for hiring nearly 1,400 new controllers by year's end. (See August 24, 2006.)

March 15, 2007: Effective this date, FAA implemented a final rule setting safety and oversight rules for a broad variety of sightseeing and commercial air tour flights. The rule standardized requirements for air tour operators and consolidated air tour safety standards. It required operators, including some who were not previously covered, to meet the safety requirements in the expanded national air tour safety standards of the federal aviation regulations. These provision included requirements for enhanced passenger briefings before takeoff, life preservers and helicopter floats for certain over water operations, and the submission of helicopter performance plans. The rules also applied to the growing air tour industry offering tours of national parks. (See November 27, 2002.)

March 23, 2007: FAA dedicated its newest air traffic control facility in Guam. With oversight responsibility for nearly 200,000 square miles of airspace in the South Pacific, the new Guam Center would consolidate a number of air traffic functions in a single location. It would house en route and terminal radar air traffic control, a new air traffic control tower for the local international airport, and a technical operations division.

March 2007: FAA selected Naverus Inc., as the first FAA-approved Required Navigation Performance (RNP) consultant to help airlines qualify to fly RNP procedures in the U.S. Intending to accelerate the transition from ground-based to satellite-based navigation, the agency had decided to allow third parties to become involved. Broadening the use of RNP would allow minimums to be lower than otherwise possible during instrument approaches and would eventually allow reduced separation of aircraft. Naverus would advise airlines on how to qualify to fly RNP procedures, as outlined in FAA Advisory Circular 90-101. (See July 2006.)

April 2, 2007: Runway 7R/25L opened at Los Angeles International Airport.

April 3, 2007: FAA announced completion of Advanced Technologies and Oceanic Procedures (ATOP) deployment with the installation at the Anchorage Air Route Traffic Control Center. ATOP was already deployed at FAA centers in Ronkonkoma, New York, and Oakland, California, providing air traffic service over the Atlantic and Pacific regions respectively. This technology enabled controllers to separate aircraft in areas outside radar coverage or direct radio communication, such as over oceans. It also detected conflicts between aircraft and provided satellite data link communication and position information to air traffic controllers. (See June 23, 2005.)

April 6, 2007: FAA released new guidelines allowing developers to obtain one-year experimental launch permits for reusable spacecraft. These provisions would give businesses the opportunity to fly and test their vehicles before applying for a FAA launch license. A permit would cover multiple vehicles of a particular design and could be used for an unlimited number of launches. Applicants would have to provide FAA a program description, a flight test plan, operational safety documentation (including a hazard analysis), and a plan for responding to any mishap. None of the flights covered by an experimental permit could be flown for profit, and the permits could be renewed following a favorable FAA review. The agency would determine what kind of design changes could be made to a vehicle before its permit would be invalidated. (See December 15, 2006.)

April 11, 2007: FAA dedicated the new \$90 million, 324-foot tall air traffic control tower at Phoenix's Sky Harbor International Airport. The new tower featured state-of-the-art equipment and design. At 850 square feet, it was twice as tall as the old Phoenix Tower, built in 1977, and could accommodate 11 controllers in a cab three times the size of the previous one. The new TRACON section of the structure, with work stations for 22 controllers, replaced a 50-year old leased building that had accommodated only 13 controllers.

April 26, 2007: FAA proposed new standards to ensure timely activation of airframe ice protection systems on Part 25 aircraft. The proposal would require manufacturers to provide a means to alert the flight crew when an ice protection system should be activated. The proposal stipulated three options for hazard detection and activation of the ice protection system: supplying a primary ice detection system that would activate automatically to alert the flightcrew of realized danger; supplying visual cues that, together with an advisory ice detection system, would alert the flight crew of the first signs of ice accretion; or supplying technology that would identify external conditions conducive to icing and advise the flightcrew to be prepared to activate the protective system.

April 2007: FAA awarded a production certificate to Eclipse Aviation for the Eclipse 500, one of the first very light jets to be certified. (See July 27, 2006.)

April 2007: The precision runway monitoring system became operational at Atlanta Hartsfield International Airport. The system allowed controllers to land planes almost simultaneously on parallel runways, saving time and simplifying operations.

May 9, 2007: FAA and NASA formalized an educational partnership aimed at developing the next generation aviation and aerospace workforce.

May 15, 2007: FAA released the Future Airport Capacity Task (FACT) 2 report. The study identified six airports and four metropolitan areas in the national airspace system that, despite the effect of currently planned improvements, were likely to be capacity-constrained by 2015 and 2025. It recommended airport planning and development to increase the capacity of the system to meet these anticipated future aviation demands.

May 16, 2007: FAA Administrator Marion Blakey and her counterparts from Canada and Mexico signed a formal agreement establishing a cooperative NextGen strategy group. The agreement encouraged all three countries to share information regarding strategic roadmaps, technologies, and environmental metrics, as well as to coordinate harmonization efforts between North America and the International Civil Aviation Organization. (See July 18, 2006; June 13, 2007.)

May 23, 2007: FAA announced its annual Spring/Summer Plan, called the airspace flow program. The program gave airlines the option of either accepting delays for scheduled flights that would have to fly through storms or flying longer routes to maneuver around adverse conditions. The agency successfully launched the program in 2006 at seven locations in the Northeast. On bad weather days at major airports in the region, delays fell by nine percent compared to the year before. The 2007 plan targeted 18 locations around the country where heavy traffic and weather created the most system delays.

May 23, 2007: FAA announced deployment of adaptive compression, a new software program that would help to ensure that airports affected by bad weather would receive as many flights as could safely fly to them. When storms caused flights to be delayed or canceled, the software program would fill automatically vacant arrival slots with the next available flight. Deployed in March, the software tool effectively reduced delays to save time and money for airlines and passengers.

May 23, 2007: FAA published a final rule in the *Federal Register* modifying Part 158. The change added debt service and air carrier bankruptcy requirements and other miscellaneous changes mandated by the Vision 100 – Century of Aviation Reauthorization Act.

May 24, 2007: FAA and the National Association of Government Employees Local signed a contract covering over 200 air traffic assistants who provided support for air traffic operations in terminal and en route facilities.

June 13, 2007: FAA announced release of the "NextGen Concept of Operation," a document which laid out the blueprint for the development and execution of the NextGen system. (See May 16, 2007; June 2007; September 26, 2007.)

June 22, 2007: Department of Transportation Secretary Mary Peters, FAA Administrator Marion Blakey, and Minister Praful Patel from the Ministry of Civil Aviation in India signed a memorandum of agreement that established the U.S.-India Aviation Cooperation Program, a U.S. government and industry initiative to promote aviation relations and cooperation with Indian counterparts. (See April 6, 2004.)

June 2007: FAA published the first version of its expanded Operational Evolution Partnership (OEP), which laid out the agency's path to NextGen through 2025. The OEP, launched in 2001 to improve capacity, was extended in duration as well as broadened in scope to include FAA's NextGen-related activities. (See June 7, 2001; June 13, 2007.)

July 18, 2007: FAA and the National Air Traffic Controllers Association (NATCA) signed the NATCA multi-unit agreement covering approximately 1,200 engineers and architects responsible for the planning, design, and installation of facilities, systems and equipment. Negotiations took place over the course of nine months before the agreement was overwhelmingly ratified by the union membership. This development was expected to help ensure the continuing safety of the national airspace system. (See July 10, 2005.)

July 26, 2007: FAA announced it was modifying the restricted airspace over the National Capital Region to make it safer, more secure, and easier for pilots to navigate. The new, circular 30-nautical-mile-radius restricted area eliminated the “mouse ears” shape of the previous air defense identification zone and allowed pilots to use a single navigational aid instead of four. The change, which went into effect on August 30, 2007, freed 33 airports and helipads from difficult restrictions affecting approximately 1,800 square miles of airspace. (See February 10, 2003.)

August 6, 2007: Effective this date, FAA amended its regulations to reflect technological advances supporting Area Navigation, or RNAV. The new provisions updated the use of suitable RNAV systems for navigation and made them more consistent with those of the International Civil Aviation Organization. The regulations also removed all reference to the middle marker, a previously required component of instrument landing systems, and clarified airspace terminology. (See July 2006.)

August 8, 2007: FAA announced an airport surface detection equipment program known as ASDE-X had begun an operational suitability demonstration at Chicago's O'Hare airport. ASDE-X used ground surveillance data collected from a variety of sources, including traditional radar, the Automatic Dependent Surveillance — Broadcast system, and aircraft transponders. Controllers in the tower saw the information presented as a color display of aircraft and vehicle positions overlaid on a map of the airport's runways, taxiways, and approach corridors. The system continuously updated a map of all airport-surface operations that controllers could use to spot potential collisions. The FAA planned to commission the system in about a month. ASDE-X was first tested by the FAA in June 2003 at General Mitchell International Airport in Milwaukee, Wisconsin. The system was declared ready for national deployment several months later. (See February 29, 2004; December 5, 2007.)

August 15, 2007: FAA Administrator Marion Blakey assembled a meeting of over 40 aviation leaders to brainstorm short-term remedies for reducing runway incursions. The one-day meeting involved senior FAA officials and industry executives. Blakey asked the meeting participants to consider solutions in four areas: cockpit procedures, airport signage and markings, air traffic procedures, and technology. The aviation community agreed to a five point short-term plan:

- Within 60 days, teams of FAA, airport operators, and airlines would begin safety reviews at the airports where wrong runway departures and runway incursions were the greatest concern.
- Within 60 days, disseminate information and training across the entire aviation industry.
- Within 60 days, accelerate the deployment of improved airport signage and markings at the top 75 airports, well ahead of the June 2008 mandated deadline.
- Within 60 days, review cockpit procedures and air traffic control clearance procedures.
- Implement a voluntary self-reporting system for all air traffic organization safety personnel, such as air traffic controllers and technicians.
- By focusing new procedures and technology on mid- to long-term goals, maximize situational awareness, minimize pilot distractions, and eliminate runway incursions. (See June 24, 2008.)

August 30, 2007: FAA selected ITT Corporation as the prime contractor for the Automatic Dependent Surveillance — Broadcast (ADS-B) system. Under the terms of the approximately \$1.8 billion contract, ITT would build the ADS-B ground stations and would own and operate the equipment. FAA would pay subscription charges to ITT for the transmission of ADS-B broadcasts to suitably equipped aircraft and air traffic control facilities. Along with air traffic displays, ADS-B would provide pilots graphical weather information, terrain maps, and flight information that would include temporary flight restrictions and notices to airmen. The system would alert controllers and pilots alike to the precise location of aircraft, enabling them to negotiate more direct flight routes that would enhance airspace efficiency, reduce delays, and – most importantly – improve safety. (See July 1, 2002; October 2, 2007.)

August 2007: The Federal Labor Relations Authority (FRLA) issued its rulings on three unfair labor practice complaints filed by the National Air Traffic Controllers Association (NATCA) in April, July, and September 2006. The charges related to the negotiation and implementation of the contract. FRLA concluded that there was no merit to NATCA's claims, FAA had bargained in good faith, and the agency's implementation of the contract was lawful. (See April 3, 2006; December 2007.)

September 4, 2007: FAA approved collection of almost \$1.3 billion of Passenger Facility Charge (PFC) revenue at Chicago O'Hare International Airport to finance various projects, including new runways and a runway extension associated with the O'Hare Modernization Program at Chicago, Illinois.

September 5, 2007: FAA issued a final decision for redesigning the New York, New Jersey, and Philadelphia metropolitan area airspace as part of efforts to reduce delays, fuel consumption, aircraft emissions, and noise. FAA held more than 120 public meetings in five states to complete the environmental planning process. The airspace redesign involved a 31,000-square-mile area over New York, New Jersey, Pennsylvania, Delaware, and Connecticut with a population of 29 million residents. Twenty-one airports were included in the study.

September 13, 2007: Marion Blakey left FAA after serving her five-year term. Robert Sturgell became acting administrator. (See September 13, 2002; September 24, 2007; October 23, 2007; February 7, 2008.)

September 18, 2007: FAA dedicated the new air traffic control tower at Washington Dulles International Airport. The new facility, which had become operational about two months before, supplanted a tower that had been in service since the airport opened in 1962.

September 20, 2007: FAA told airlines it planned to impose a new "level 2" international designation on New York's Kennedy and Newark airports – a classification that would require carriers to supply their summer schedules by October 11. This earlier deadline would apply to flights coming to the area between March 9 and November 1, although FAA would accept schedules that coincided with the International Air Transport Association scheduling season of March 30 through October 25. Level 2 airports were defined by IATA as facilities "where there is considerable potential for congestion at some periods . . . which is amenable to resolution by voluntary cooperation between airlines." New York's LaGuardia and Chicago O'Hare were the only U.S. airports designated as level 3.

September 24, 2007: Ruth Leverenz, FAA assistant administrator for centers and regions, became acting deputy administrator. (See September 13, 2007.)

September 26, 2007: House aviation subcommittee Chairman Jerry Costello (D-IL) accused FAA of not acting aggressively enough to prevent airline over scheduling, and suggested the focus by the agency and airlines on the Next Generation Air Transportation System (NextGen) air traffic control system was a red herring. The chairman said he was pleased, however, FAA asked airlines to supply their summer schedules in advance for New York Newark and Kennedy airports. (See June 13, 2007; March 10, 2008.)

September 30, 2007: FAA announced it had accepted early delivery of a crucial en route air traffic control system from manufacturer Lockheed Martin. The En Route Automation Modernization (ERAM) system had passed all FAA requirement tests. The next phase of operational testing would be primarily conducted by FAA at the William J. Hughes Technical Center. FAA stressed the government acceptance milestone was achieved within budget and ahead of time. ERAM would replace the current host system at the 20 air route traffic control centers. (See June 30, 2003.)



October 1, 2007: Henry P. Krakowski became the FAA ATO COO, replacing Russ Chew who left the agency in February. Krakowski came to the FAA from a 29-year career at United Airlines. (See February 23, 2007.)

October 2, 2007: FAA proposed an initial set of aircraft avionics requirements designed to enable the transition to the next generation satellite-based air transportation system. The proposal would require all aircraft flying in the nation's busiest airspace to have satellite-based avionics by 2020 so air traffic controllers could use the satellite-based Automatic Dependent Surveillance — Broadcast (ADS-B) system to track them. Aircraft not flying in controlled airspace would not be required to have ADS-B avionics. The proposed rule was open to public comment for 90 days, and was scheduled to become final by late 2009. The proposed compliance date of 2020 would give the industry more than ten years to equip aircraft with ADS-B avionics. (See August 30, 2007; March 10, 2008.)

October 19, 2007: FAA announced the expansion of Wide Area Augmentation System (WAAS) coverage into Canada and Mexico, increasing capacity at thousands of general aviation airports across the North American continent. WAAS had already improved the accuracy and integrity of Global Positioning System satellite signals, and provided highly precise approaches that could be used regardless of the weather. Nine new international wide-area reference stations were brought online under the expansion. The Canadian locations included Goose Bay, Gander, Winnipeg, and Iqaluit. The Mexican locations included Mexico City, Puerto Vallarta, Merida, Tapachula, and San Jose del Cabo. Cooperation on the expansion project was carried out with Canadian and Mexican aviation authorities under the auspices of the North American Aviation Trilateral Agreement. (See March 24, 2006.)

October 23, 2007: The White House announced its intention to nominate Robert Sturgell for a five-year term as FAA Administrator. (See September 13, 2007.)

October 25, 2007: FAA announced that 23 schools were now participating in the agency's air traffic Collegiate Training Initiative (CTI) program, part of a broader effort by the agency to recruit, train, and hire controllers. CTI schools were accredited to offer a non-engineering aviation degree in aviation programs. To the original 14 CTI institutions, FAA added nine schools: Arizona State University; Community College of Baltimore County (Maryland); Florida Community College-Jacksonville; Green River Community College (Washington); Lewis University (Illinois); Kent State University (Ohio); the Metropolitan State College of Denver (Colorado); Middle Georgia College, and the University of Oklahoma. These nine schools joined fourteen others that renewed their commitment to the program, which was first established in 1990 at Minneapolis Community and Technical College.

November 8, 2007: FAA issued a final rule amending regulations for the certification and operation of transport category airplanes to mitigate conditions that put airlines at risk for wire failures, smoke and fire. The new rule enhances the safety requirements for design,

installation and maintenance of electrical wiring in new and existing airplane designs, including the following:

- new maintenance, inspection, and design criteria for airplane wiring to address conditions that put transport airplanes at risk of wire failures, smoke and fire;
- requirements for those aerospace manufacturers holding type certificates, which indicate airworthiness, to analyze the zones of their airplanes for the presence of wire and for the likely accumulation of contaminant materials before 2010;
- requirements for those aerospace manufacturers holding type certificates to develop maintenance and inspection tasks to identify, correct, and prevent wiring conditions that introduce risks to continued safe flight, and that these tasks are included in new Instructions for Continued Airworthiness for wiring and compatible with Instructions for Continued Airworthiness for fuel tank systems while avoiding duplication or redundancy, by 2010; and
- requirements for operators of transport-category airplanes to incorporate maintenance and inspection tasks for wiring into their regular maintenance programs before 2012.

November 15, 2007: President George W. Bush announced an agreement between the FAA and DoD that temporarily released military airspace for Thanksgiving holiday travel. Under the airspace agreement, the Department of the Navy released airspace, above 24,000 feet, off the east coast from Maine to Florida. FAA was allowed to use that airspace from 4 p.m. eastern standard time on Wednesday, November 21, to 6 a.m. eastern standard time on Monday, November 26. The Navy continued to control airspace off the east coast below 23,000 feet for training operations.

November 30, 2007: FAA completed tests of a new systems designed to improved the detection of microburst winds in dry climates at the Las Vegas airport. During the tests, the light detection and ranging, or LIDAR, detected more than half of all possible types of windshear. LIDAR uses pulses of infrared light in a narrow scanning beam which bounces off dust particles in the air. The frequency of the pulse changes according to the speed of the particles. Microbursts are commonly associated with thunderstorms, and more than 40 airports in the U.S. have TDWR systems that detect most microbursts during rain. However, these systems do not pick up microbursts that occur when rain does not reach the ground, particularly in high, dry climates or between mountains. Four major airports have these conditions - Las Vegas, Denver, Phoenix, and Salt Lake City.

November 2007: FAA and Japanese aviation officials signed a data exchange agreement to coordinate air traffic operations between the two countries. The agreement was the result of meetings by the Informal Pacific Air Traffic Control Coordination Group (of which Japan and the United States are members) that recommended improvements to air traffic flow management through data sharing. Japan was the first country to participate in the program.

December 5, 2007: In a report issued on this date, GAO faulted FAA's approach to reducing runway incursions and increasing ramp safety. GAO said FAA efforts had been uncoordinated, largely because its 2002 runway safety action plan had not been updated – although agency policy called for an update every two to three years. GAO also

expressed concern about the deployment of the airport surveillance detection system known as ASDE-X, saying it was skeptical FAA could meet its revised target of deploying ASDE-X to 35 major airports by 2011. GAO echoed National Transportation Safety Board concerns about controller fatigue, particularly the number of controllers working six-day weeks. (See August 8, 2007.)

December 6, 2007: FAA announced plans to form an aviation rulemaking committee to develop requirements for aircraft landing distance performance assessments prior to landing. FAA said the takeoff/landing performance assessment aviation rulemaking committee would establish: airplane certification and operational requirements (including training) for takeoff and landing operations on contaminated runways; landing distance assessment requirements, including minimum landing distance safety margins, to be performed at the time of arrival; and, standards for runway surface condition reporting and minimum surface conditions for continued operations.

December 10, 2007: Effective this date, FAA amended regulations for certification and operation of transport category airplanes. These changes improved the design, installation, and maintenance of airplane electrical wiring systems and aligned the amended requirements as closely as possible with those affecting fuel tank system safety. The rule organized and clarified design requirements for wire systems by moving existing regulatory references to wiring into a single section of the regulations specifically for wiring and by adding new certification rules. Under the rule, manufacturers had to complete FAA-approved instructions for new wiring-related maintenance and inspection tasks within 24 months for existing airplanes. U.S. scheduled air carriers and foreign airlines operating U.S.-registered aircraft had to develop maintenance and inspection programs for wiring based on the manufacturers' instructions within 39 months, and had to update those programs, as needed, for subsequent aircraft modifications. (See October 6, 2005.)

December 13, 2007: President Bush signed into law the Fair Treatment for Experienced Pilots Act (Public Law 110-135). The law amended federal transportation law to allow a pilot who has attained 60 years of age to serve as a passenger airline pilot until the age of 65, provided that a pilot who has attained age 60 may serve as pilot-in-command on international flights only if there is another pilot in the flight crew who has not yet attained 60 years of age. It also prohibited subjecting pilots to different medical examinations and standards on account of age unless to ensure an adequate level of safety in flight, except that no person who has attained 60 years of age may serve as a pilot unless such person has a first-class medical certificate. In addition, the act required air carriers to: (1) continue to provide FAA-approved training to pilots, with specific emphasis on initial and recurring training and qualification of pilots who have attained 60 years of age; and (2) evaluate, every six months, the performance of pilots who have attained 60 years of age through a line check of such pilot. (See January 30, 2007.)

December 19, 2007: Department of Transportation Secretary Mary Peters announced new measures to reduce airline delays over the holiday season as well as new actions designed to reduce congestion in the New York area starting next summer. The agreement among

the major airlines serving John F. Kennedy International Airport, caps the number of flights at either 82 or 83 per hour, depending on the time of day. The hourly caps took effect on March 15, 2008, and would remain in place for two years. Airlines were now allowed to shift their flights to times of the day when the airport has unused capacity, allowing 50 more flights per day than the previous summer. The Secretary also directed the FAA to enter into negotiations to set hourly caps at Newark International Airport. Effective this date, Peters also announced new take-off patterns at Newark and Philadelphia International Airport that allowed aircraft to fan out after take off, which provided more options for aircraft waiting to depart. Peters also authorized the appointment of an aviation “czar” to serve as director of the newly-created FAA New York Integration Office. The new office will coordinate regional airspace issues and all projects and initiatives addressing problems of congestion and delays in New York. In addition, the Secretary formed a new federal advisory task force to help airlines and airports better coordinate when unexpected weather strands passengers on tarmacs and in airports. She also authorized the FAA to exercise liberal use of overtime to make sure facilities are staffed to handle the surge in traffic, and placed a moratorium on non-essential maintenance through the holidays so controllers can focus on traffic.

December 31, 2007: In Calendar Year 2007, public agencies collected \$2.8 billion in Passenger Facility Charge revenue.

December 2007: According to a memo sent by FAA to its managers, the agency submitted its "second settlement proposal" to the National Air Traffic Controllers Association (NATCA) in the last week of December. Former NATCA President John Carr reportedly sent the memo to *Aviation Daily*. The memo describes the offer as including several pay adjustments as well as additional projects that will further benefit the work force. A FAA spokeswoman confirmed that a new proposal was sent to NATCA. FAA said the agency had been in discussions with the union about a settlement since last spring, and the latest offer is part of this process. NATCA said FAA gave it a deadline of March 31, 2008, to accept the proposal. (See August 2007.)

## 2008

January 14, 2008: Department of Transportation Secretary Mary Peters announced a new national policy that would make it easier for overcrowded airports to add capacity and reduce delays by encouraging airlines to spread their flights more evenly throughout the day. Once finalized, Department of Transportation would encourage congested airports in New York and across the country to move away from the decades-old practice of charging aircraft landing fees based simply on the weight of the plane. As a result, airports would be able to spread traffic more evenly throughout the day – allowing them to serve more passengers, reduce delays, and help avoid the need for sustained Federal Government intervention, Secretary Peters said. The proposed policy changes would be open to public comment for 45 days before being finalized. Changes to the FAA’s Policy on Airport Rates and Charges would also allow airport operators to include the cost of projects designed to expand capacity in the new landing fees. Currently, airports can only include those costs after the projects have been completed.

January 24, 2008: FAA announced that, as a result of the runway safety summit held in August 2007, FAA and industry had made significant accomplishments in achieving the goals of their runway safety plan. As of this date, 71 of the targeted 75 medium and large airports had completed upgrades to airport painted markings. The remaining four were expected to have their markings upgraded well in advance of the June 2008 deadline. Sixty-two small airports had upgraded their markings, 121 airports planned to complete the work by the end of the year, 25 airports planned to enhance markings in 2009 and 22 airports had expressed interest but had not yet provided a target completion date. The FAA also was taking steps to propose extending the enhanced taxiway centerline requirement to all certificated airports. FAA published a draft change to Advisory Circular (AC) 150/5340-1J, Standards for Airport Markings, in late December 2007. Comments were due by February 26, 2008. In addition, FAA completed a runway safety review of 20 airports based on runway incursion data and wrong runway departure data. FAA also issued a draft change to AC 150/5210-20, Ground Vehicle Operations on Airports, in late December 2007. Public comments were due by February 26, 2008. On January 15 acting FAA Administrator Robert Sturgell convened a teleconference with the chief executive officers of U.S. commercial carriers to reinforce the need for improved pilot training and cockpit procedure, citing concern over recent high-visibility runway safety events. (See August 15, 2007.)

January 28, 2008: FAA finalized a special federal aviation regulation (SFAR) that created new pilot training, experience, and operating requirements to increase the safety of the widely used Mitsubishi MU-2B airplane. The final rule mandated a comprehensive standardized pilot training program for the aircraft. The regulation required use of a standardized cockpit checklist and the latest revision of the airplane flight manual. MU-2B operators also must have a working autopilot onboard except in certain limited circumstances. Owners and operators were to comply with the SFAR within a year.

February 6, 2008: FAA announced it planned to deploy new air traffic tower simulators to 19 locations around the country to help train thousands of new air traffic controllers in an interactive operational environment that provides realistic scenarios. The new simulators would be deployed over the next 18 months at the following towers: John F. Kennedy (NY); Los Angeles; Oakland (CA); Washington Reagan National; Dallas Fort-Worth; Atlanta; Denver; Philadelphia; Cincinnati; Cleveland; San Antonio; Memphis (TN); Honolulu; Orlando (FL); Charlotte (NC); Minneapolis; Boston; and Newport News (VA). The FAA planned to install an additional six simulators at the FAA Academy in Oklahoma City.

February 7, 2008: The Senate Committee on Commerce, Science and Transportation held a nomination hearing for acting FAA Administrator Robert Sturgell to formally become the Administrator. After the hearing, New Jersey's two democratic senators, Frank Lautenberg and Bob Menendez, placed a hold on the nomination, preventing it from going to the Senate floor for a vote. Both said they had concerns about safety and traffic issues with the FAA. Both senators were also unhappy with FAA changes to the New York area airspace intended to ease congestion. The contended these innovations added

to noise pollution. Sturgell has been acting FAA Administrator since Marion Blakey's term expired. Bush nominated Sturgell to be her replacement October 23. (See September 13, 2007.)

February 13, 2008: In testimony before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives, GAO investigators said recent data indicated that the numbers of runway incursions, precursors to actual aviation accidents, were growing. From fiscal year 2006 through fiscal year 2007, the number and rate of incursions increased by 12 percent and both were nearly as high as the 2001 peak. Furthermore, the number of serious incursions—where collisions are narrowly or barely avoided—increased from 2 during the first quarter of fiscal year 2007 to 10 during the same quarter in fiscal year 2008. GAO said FAA had taken steps to address runway safety, but further progress had been impeded by a lack of leadership and coordination, technology challenges, lack of data, and human factors-related issues. FAA's actions included deploying and testing technology designed to prevent runway collisions and promoting changes in airport layout, markings, signage, and lighting. GAO pointed out FAA had not updated its national runway safety plan since 2002, despite agency policy that such a plan be prepared every two to three years. GAO also said that runway safety technology currently being installed, which is designed to provide air traffic controllers with the position and identification of aircraft on the ground and alerts of potential collisions, was behind schedule and experiencing cost increases and operational difficulties with its alerting function. Furthermore, air traffic controller fatigue, which may result from regularly working overtime, continued to be a matter of concern for the National Transportation Safety Board and others.

February 14, 2008: Department of Transportation Secretary Mary Peters announced that the United States and Australia concluded a landmark Open-Skies aviation agreement that eliminated restrictions on U.S.-Australia air services for the carriers of both countries. Under the new agreement, U.S. and Australian airlines can select routes and destinations based on consumer demand, without limitations on the number of such carriers that can fly between the two countries or the number of flights they can operate. The agreement also removed restrictions on capacity and pricing, and provided opportunities for cooperative marketing arrangements, including code-sharing, between participating carriers. With this agreement, Australia becomes the 90th U.S. Open-Skies partner.

February 15, 2008: In an effort to streamline the application process for air traffic controllers, FAA created consolidated screening and testing centers to provide one stop shopping for prospective new employees. Consolidating security clearances, medical screenings, and fingerprinting allowed the agency to cut weeks off the application process. To get numerous applicants through the system at one time, the FAA created a pre-employment processing center that coupled screening and testing. The first center was set up at the regional FAA office in New York in January.

February 26, 2008: FAA announced plans to install runway status lights at Los Angeles International Airport. Using a series of red lights embedded in the pavement, the system

would warn pilots if it were unsafe to cross over or enter a runway. Under an agreement between the FAA and Los Angeles World Airports, pilots would begin testing runway status lights at Los Angeles International Airport in early 2009. LAWA would fund the system at an estimated costs of \$6 million. The FAA would install, test, evaluate and maintain the system.

February 28, 2008: President Bush signed into law legislation extending FAA authorization and the existing aviation excise taxes through June 30, 2008. The legislation, H.R.5270, also renewed FAA's airports contract spending authority, which expired at the end of 2007, freeing up Airport Improvement Program dollars. The president signed the legislation one day before the agency's authorization was due to expire.

March 6, 2008: FAA initiated an action to collect a \$10.2 million civil penalty from Southwest Airlines for operating 46 airplanes without performing mandatory inspections for fuselage fatigue cracking. Subsequently, the airline found that six of the 46 airplanes had fatigue cracks. From June 18, 2006 to March 14, 2007, FAA alleged that Southwest Airlines operated 46 Boeing 737 airplanes on 59,791 flights while failing to comply with a September 8, 2004 FAA airworthiness directive that required repetitive inspections of certain fuselage areas to detect fatigue cracking. FAA alleged that after Southwest Airlines discovered that it had failed to accomplish the required repetitive inspections, between March 15, 2007 and March 23, 2007, it continued to operate those same 46 airplanes on an additional 1,451 flights. The amount of the civil penalty reflects the serious nature of those deliberate violations. Southwest Airlines had 30 days from receipt of the FAA's civil penalty letter to respond to the agency.

March 10, 2008: FAA mandated significant upgrades to aircraft cockpit voice and flight data recorders – improvements that enable investigators to retrieve more data from accidents and incidents requiring investigation. Under the final rule, which affects manufacturers and operators of airplanes and helicopters with 10 or more seats, all voice recorders had to capture the last two hours of cockpit audio instead of the current 15 to 30 minutes. The new rule also required an independent backup power source for the voice recorders to allow continued recording for nine to 11 minutes if all aircraft power sources were lost or interrupted. Voice recorders also were required to use solid state technology instead of magnetic tape, a medium that has been shown to be vulnerable to damage and loss of reliability. Airplanes (but not helicopters) operating under Parts 121, 125 or 135 of FAA regulations had to retrofit some equipment by April 7, 2012. The rule also mandated these enhancements on all newly built aircraft and helicopters after April 7, 2010. (See September 26, 2007; October 2, 2007.)

March 10, 2008: Airlines serving Newark Liberty Airport agreed to temporarily cap and spread flights for two years at a level that would allow 30 more flights per day than during the previous summer while helping to reduce chronic delays. The cap, which would apply to both domestic and international flights, would allow an average of 83 flights per hour during peak periods and would go into effect in early May.

March 10, 2008: Department of Transportation Secretary Peters announced that the department would move key elements of NextGen – the new satellite-based aviation system designed to enhance efficiency and minimize delays across the nation – from design to delivery in 2008. She said Florida would serve as the test-bed for the new system beginning the summer of 2008, with the introduction of NextGen at Daytona Beach. A new descent technique would also help to save fuel, and reduce noise and emissions in Miami. In addition, Automatic Dependent Surveillance — Broadcast (ADS-B) technology would help increase the capacity of airspace along Florida’s Gulf Coast by allowing planes to fly more closely together without compromising safety.

March 13, 2008: Department of Transportation Secretary Peters announced the United States and Croatia concluded an Open-Skies agreement that would establish free trade in aviation services between the two countries. The aviation agreement was the first between the countries and came after two days of negotiations in Zagreb, Croatia. Under the new agreement, airlines from both countries would be allowed to select routes and destinations based on consumer demand, without limitations on the number of U.S. or Croatian carriers that could fly between the two countries or the number of flights they could operate. The agreement also contained no restrictions on capacity and pricing, and provided opportunities for cooperative marketing arrangements, including code-sharing, between U.S. and Croatian carriers. The agreement offered U.S. cargo carriers special benefits by allowing them to carry air cargo between Croatia and third countries without requiring a stop in the United States. Croatia became the 91st U.S. Open-Skies partner.

March 18, 2008: FAA directed federal aviation inspectors to reconfirm that commercial carriers operating within the United States had complied with all airworthiness directives (ADs). By March 28, 2008, inspectors had to complete review of ten ADs per fleet. In total, they completed a review of ten percent of the directives applicable to a fleet.