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**Federal Aviation
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Report of the Administrator of the Federal Aviation Administration to the United States Congress pursuant to Section 44938, Title 49, Transportation

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EXECUTIVE SUMMARY

This report presents a summary of events, programs, and accomplishments in civil aviation security in 1997. The year continued the significant changes in direction and emphasis in civil aviation security in the United States that began in 1996 in the aftermath of the ValuJet Flight 592 and TWA Flight 800 tragedies. The White House Commission on Aviation Safety and Security recommended several measures to improve aviation safety and security and ensure that the U.S. aviation system remains the safest and most secure aviation system in the world. The Federal Aviation Administration (FAA) made significant progress this year in implementing many of the White House Commission s recommendations and related legislation.

Significant Events and Activities of 1997

January

The FAA Security Equipment Integrated Product Team (SEIPT) began installations of explosives detection systems for screening checked baggage in Chicago and New York.

February

February 12, the White House Commission issued its final report, which included 31 recommendations related specifically to aviation security. The FAA has primary responsibility for 21 of these recommendations.

The FAA joined with the Department of Transportation Office of Inspector General to conduct special emphasis testing of air carrier and indirect air carrier unknown shipper packages.

The FAA completed technology training for airport consortia members.

March

March 19, the FAA published a notice of proposed rulemaking (NPRM) to extend background investigations to include screeners.

March 25, the first FAA-exclusive class of K-9 handlers graduated from the Military Working Dog School at Lackland Air Force Base, Texas.

The FAA published an advance notice of proposed rulemaking (ANPRM) on certifying screening companies and improving screener training, which subsequently was delayed until more data become available.

The FAA published the final rule Sensitive Security Information, to require airports, air carriers, foreign air carriers, and indirect air carriers to restrict the distribution, disclosure, and availability of sensitive security information to persons with a need to know.

April

The FAA and Northwest Airlines completed final programming changes to, and Northwest conducted tests of, the computer-assisted passenger screening (CAPS) system.

May

May 12, the Department of Defense convened and the FAA participated in the Civil Aviation Anti-Missile Defense Task Force in response to a recommendation of the White House Commission on Aviation Safety and Security.

May 14, the FAA issued for comment proposed amendments to the standard security programs for U.S. air carriers, couriers, freight forwarders, and cargo consolidators as well as the model security program for foreign air carriers to enhance aviation cargo security.

May 19, the FAA and the National Academy of Sciences Panel on Assessment of Technologies for Aviation Security signed an agreement to study advanced security equipment deployments and hardened cargo container tests and planned deployments.

May 26, the FAA submitted a report to Congress on its use of additional funding provided for the Dangerous Goods and Cargo Security Program.

June

June 3, the FAA completed a pilot program to examine the feasibility of matching bags with passengers to ensure that the bags of individuals who do not board aircraft are removed from the aircraft in response to the

White House Commission s recommendation that passenger-bag matching be implemented for domestic flights.

August

August 1, the FAA publisheed NPRM s to revise parts 107 and 108 of title 14, Code of Federal Regulations.

August 5, the FAA issued a proposal to incorporate security procedures for passengers into the Air Carrier Standard Security Program. This implemented a White House Commission recommendation to ensure that all passengers are positively identified and subjected to security procedures before they board aircraft.

August 19, the FAA Administrator presented the third annual Screener of the Year award to Ms. Betty Jean Davis from Chicago O Hare International Airport.

October

October 1, the Department of Justice s Civil Rights Division issued its report on its review of automated and manual passenger screening systems, which concluded that the systems did not violate individuals civil liberties.

October 10, the Vulnerability Assessment of the National Airspace System Architecture of the Final Report for the President s Commission on Critical Infrastructure Protection was issued.

December

December 11, the National Civil Aviation Review Commission (NCARC), which was created by the 1996 FAA Reauthorization Act to examine FAA requirements and financing, issued its final report and funding and safety recommendations to the Secretary of Transportation.

December 23, the FAA Administrator and leading U.S. airlines announced that passenger-bag matching would be expanded using passenger screening to apply explosives detection systems or bag matching to domestic passengers luggage.

The FAA issued a proposal to amend the ACSSP to strengthen passenger screening and clearance procedures for selectee bags.

The FAA and the FBI conducted their first joint airport vulnerability assessments at Baltimore-Washington International Airport as required by the Reauthorization Act of 1996.

INTRODUCTION

The Federal Aviation Administration (FAA) submits this report pursuant to title 49 of the United States Code, sections 44938 and 44907 (formerly sections 315(a), 316(b), and 1115(a) of the Federal Aviation Act of 1958, as amended). The report presents a summary of events, programs, and accomplishments in civil aviation security in 1997, including passenger, baggage, and cargo screening and domestic and foreign air carrier and airport security.

FAA Civil Aviation Security Mission

The FAA s aviation security mission is to protect the users of commercial air transportation against terrorist and other criminal acts. Because terrorists seek to destroy public confidence in the safety of air travel and disrupt this vital segment of the U.S. and world economies, the continued growth of commercial air transportation hinges on the effectiveness of aviation security measures. Protecting the infrastructure--FAA facilities and equipment and the employees who operate them--is a critical part of the FAA s aviation security mission.

The FAA mission includes preventing passengers and cargo shippers from transporting hazardous materials or other dangerous goods in a manner that could jeopardize flight safety. The FAA also assists other Federal Government agencies in the interdiction of drugs coming into the United States by air.

The FAA in 1997 continued to improve its baseline civil aviation security system by progressing toward implementation of the recommendations of the White House Commission on Aviation Safety and Security (final report issued February 12), the 1996 Baseline Working Group of the Aviation Security Advisory Committee, the National Civil Aviation Review Commission (NCARC) (final report issued December 11), the President s Commission on Critical Infrastructure Protection (final report October 10), and the Federal Aviation Reauthorization Act of 1996 and other legislation. The FAA hired 299 special agents and 67 support personnel; entered into partnerships with other Federal Government agencies, airports, and air carriers; conducted research, engineering, and development of advanced explosives detection technology and other advanced security technologies; and procured and deployed new aviation security equipment.

SUMMARY OF PROGRAMS AND ACCOMPLISHMENTS

This section summarizes key aviation security program areas and highlights the new and expanded program activities driven by the recommendations of the White House Commission on Aviation Safety and Security and the Baseline Working Group of the Aviation Security Advisory Committee, legislative mandates, and the aviation security environment of 1997.

Partnerships

The responsibility for aviation security is a shared one. The FAA assesses threats and develops, communicates, and enforces appropriate security measures. Air carriers are responsible for applying security measures to passengers, service and flight crewmembers, baggage, and cargo--in short, everyone and everything that enters aircraft. Airports are responsible for maintaining a secure ground environment and for providing local law enforcement support. Other Federal agencies, including the Federal Bureau of Investigation and the U.S. Customs Service, have jurisdiction at airports and the responsibility to contribute to aviation security. Also important is the cooperation of passengers and shippers.

Airport Consortia

The FAA formed consortia involving airport and air carrier officials and law enforcement agencies with responsibility for aviation security at 41 major U.S. airports in 1996 in response to a recommendation by the White House Commission on Aviation Safety and Security. The FAA delayed forming additional consortia during much of 1997 to resolve some compliance and enforcement policy issues. Plans are underway to convene voluntary consortia at over 100 airports.

Technology training was provided to over 500 airport consortia members in four locations across the country in 1997. The training gave the consortia members an overview of explosives detection systems and capabilities to help prepare the members for FAA deployments of security equipment. The training was videotaped to allow further distribution of the information.

Aviation Security Advisory Committee

The Aviation Security Advisory Committee (ASAC) is an important partnership of the DOT and FAA, other Federal Government agencies, the aviation industry, and the flying public. The Secretary of Transportation established the ASAC in 1989 in the aftermath of the bombing of Pan Am flight 103 as a forum for improving civil aviation security. In 1997, the ASAC chartered working groups to address issues like cargo security, public education, consultation, employee utilization and recognition, critical infrastructure protection, and airport categorizations. The full ASAC met in March and July 1997.

Air Carrier and Airport Security

The Code of Federal Regulations (CFR) requires the implementation of security programs by airports and air carriers. These security programs contain procedures to prevent or deter aircraft hijackings, sabotage, and other criminal acts. The FAA and the aviation industry constantly review the procedures to ensure their effectiveness in countering threats to civil aviation.

Air Carrier Security

In 1997, 152 U.S. scheduled or charter air carriers were required to follow FAA-approved security programs. Each of these carriers has adopted the Air Carrier Standard Security Program (ACSSP), developed by the FAA in consultation with the industry. The program requires each air carrier to implement standard security procedures. The FAA has the authority to amend the ACSSP when safety and the public interest require it, after providing air carriers time to review and comment on proposed amendments. If immediate action is necessary, the FAA may issue emergency amendments to the ACSSP that are effective upon receipt. Under CFR 108.18, the FAA also may issue temporary requirements for immediate action through security directives.

In July 1997, the FAA revised and reissued for comment a proposal to incorporate security procedures for passengers into the ACSSP. The final revision was issued August 5. In December, the FAA proposed a further change that also implemented a White House Commission recommendation to strengthen passenger screening and clearance procedures for selectee bags. The change would require airlines to perform identification and passenger questioning and to apply computer-assisted passenger screening or domestic selection criteria, an additional random selection percentage, and clearance procedures for selectee bags.

Principal Security Inspector (PSI)

Principal security inspectors (PSI) are assigned to certificated U.S. air carriers that are required to adopt security programs under part 108 of title 14 of the CFR (14 CFR) and to each foreign air carrier subject to 14 CFR part 129. The PSI s serve as liaisons between the FAA and the air carriers corporate security offices, representing the Associate Administrator for Civil Aviation Security and all FAA security field elements. The PSI s work closely with the carriers corporate security representatives to address areas of concern and to ensure the carriers compliance with FAA requirements. The PSI s also are responsible for approving and issuing amendments to the air carriers individual security programs as well as providing FAA policy guidance to the air carriers when regulations are developed or revised. The PSI s also approve and monitor the air carriers security training curricula.

Airport Security

U.S. and foreign scheduled and charter air carriers serve 459 airports within the United States that are regulated under 14 CFR part 107. Each airport is required to adopt and use a security program to provide a secure operating environment for air carriers. Of the regulated airports, 19 are designated as category X based on passenger traffic, complexity, and other special considerations.

The Federal Aviation Reauthorization Act of 1996 mandated that the FAA and the FBI regularly conduct joint threat and vulnerability assessments of high-risk airports. The FBI also must designate aviation security liaisons in or near cities served by these airports. An FAA/FBI working group was formed in November 1996 to identify airports where the vulnerability assessments should be conducted on a priority basis.

Model Vulnerability Assessments

The FAA contracted with private sector firms to conduct vulnerability assessments in 1997 using various models to determine which model is really the best and most appropriate for use at airports.

Eight contractors have been assigned 14 major airports to assess. The planning stage has been completed, and teams at 6 airports have completed onsite data collection activities. Fourteen out of 28 volunteer candidate airports will be engaged in helping to test and evaluate the models used in these assessments. The FAA expects the assessments to be completed in 1998.

An initial group of such airports has been identified and is being assessed as part of this program. The FAA and the FBI conducted their first joint

airport vulnerability assessment at Baltimore-Washington International Airport in December 1997. Efforts to finalize a draft FAA/FBI security liaison agreement continue.

Federal Security Manager (FSM)

Federal security managers (FSM) represent the Associate Administrator for Civil Aviation Security at the 19 category X airports. FSM positions were created by law and have been maintained by the FAA since October 1, 1991. As the FAA s designated security representatives, the FSM s maintain direct communication with key airport officials, airline managers, and law enforcement authorities. Their principal responsibilities are coordination and oversight of all operational security activities at their respective airports.

Compliance and Enforcement

The FAA has an ongoing and aggressive compliance and enforcement program that is carried out by regional offices under national direction. While striving to achieve compliance through cooperation, the FAA must ensure that regulated parties such as air carriers, airports, and shippers of dangerous goods are in compliance with applicable regulations and security programs.

Assessments and Testing

The compliance and enforcement program includes regularly scheduled comprehensive assessments. During the assessments, special agents identify security violations and weaknesses and work with industry personnel to correct deficiencies. Special agents also conduct supplemental assessments, including special emphasis assessments that target specific areas or procedures in the aviation security system. All assessments include any one method or a combination of methods: surveillance, interviews, documentation reviews, and testing.

The White House Commission on Aviation Safety and Security recommended that the FAA require industry to conduct security audits and that the FAA then perform unannounced and aggressive testing (realistic operational testing). The FAA conducted seven nationally directed systemwide rounds of this testing to determine compliance with specific security requirements. The rounds tested passenger screening, positive passenger-bag matching procedures, and

questioning and resolution procedures. The rounds were unannounced (with the exception of one test) and were covert. The results indicated that the air carriers needed to improve in the areas tested.

Enforcement

The FAA strives to gain industry compliance with aviation security requirements through performance-based partnerships, which encompass cooperation and communication before violations occur. When there are violations, the FAA seeks to ensure immediate corrective action by: encouraging voluntary disclosure of problems; working with industry in a counseling mode to help resolve problems and identify ways to prevent future violations; and, in instances where warranted, pursuing enforcement actions, including issuing warning notices, letters of correction, civil penalties, or other orders of the Administrator that might be appropriate.

A 1-year pilot of the Streamlined Enforcement Test and Evaluation Program (STEP), prompted by a recommendation of the 1993 National Performance Review, concluded in 1996. The pilot program tested an alternative method of processing civil penalties for certain violations by individuals attempting to pass weapons through screening checkpoints. Positive results were so immediate that the FAA adopted the program nationwide before the test period ended. Under STEP, the average time to process a case decreased over 90 percent, 31 percent more people paid their sanctions, and the payments were over 60 percent higher than expected.

Voluntary Disclosure Encourages Problem Fixing

To achieve maximum participation and encourage complete disclosures of vulnerabilities, the FAA revised its voluntary disclosure policy to apply to disclosures made by airports, air carriers, indirect air carriers, and foreign air carriers (under their FAA-approved security programs), including disclosures that are made during airport consortia activities. This policy will become effective in 1998. When a disclosure that satisfies the requirements of the voluntary disclosure policy is made during a consortium activity, all parties to the consortium can participate in the development of a comprehensive fix plan--with participation by the FAA--without the threat of legal enforcement action against the disclosing entity unless the comprehensive fix plan is not satisfactorily implemented. In every case, immediate but temporary corrective action is required until the comprehensive fix is in place.

In 1997, the Office of Civil Aviation Security, in conjunction with other FAA lines of business, began working on ways to streamline the enforcement investigative reports to make the reports less redundant and easier to write and to provide better information to the legal offices in case proposed actions are appealed.

Violations at the Checkpoint

Individuals who attempt to bring weapons, explosive devices, or other dangerous articles through screening checkpoints are subject to enforcement actions. They may also be subject to arrest by local law enforcement officials. The following table summarizes the estimated number of people screened through checkpoints, the number of weapons detected, and the number of people arrested between 1993 and 1997.

Civil Aviation Security Airline Passenger Screening Results
1993 1997

Year	CY 1993	CY 1994	CY 1995	CY 1996	CY 1997
PERSONS SCREENED (MILLIONS)	1,150.0	1,261.3	1,263.0	1,496.9	1,659.7
WEAPONS DETECTED:					
Firearms	2,798	2,994	2,390	2,155	2,067
Handguns	2,707	2,860	2,230	1,999	1,905
Long guns	91	134	160	156	162
PERSONS ARRESTED:					
Carriage of firearms/explosives	1,354	1,433	1,194	999	924
Giving false information	31	35	68	131	72

Aviation Security: People

The effectiveness of the aviation security system depends on the capabilities and integrity of the people who screen passengers and their possessions. In 1987, the FAA amended the ACSSP to require air carriers to detect FAA weapons and simulated explosive devices. The agency began taking enforcement actions against air carriers failing to detect FAA test objects.

Screener of the Year

Individuals working on the front lines of aviation security were recognized by the FAA during the third annual Screener of the Year award ceremony on August 19. Betty Jean Davis, a checkpoint security supervisor at Chicago O Hare International Airport, received this year s award. She was selected from among nine regional winners. Nominees for the award displayed specific and sustained superior performance in aviation security.

The FAA, the Air Transport Association, the Regional Airline Association, the Air Line Pilots Association, and the National Air Transportation Association cosponsored the awards.

Screeners should not be trained merely to detect FAA test objects; the FAA requires that they be trained to detect actual weapons, firearms, and explosive devices. But because they were tested with a small number of approved test objects, an unintended consequence was that screeners specifically looked for those test objects. New and more challenging test objects and methods were necessary to portray more realistically the explosives and techniques used by terrorist groups.

To drive up screener performance further, the FAA is preparing a rulemaking on certifying screening companies and improving screener training. The FAA is gathering data from automated testing with threat image projection to develop performance standards for screeners. The FAA expects to publish a notice of proposed rulemaking that includes certification standards in 1999.

Improving Performance

The FAA Human Factors Program began an extensive research effort to enhance screener capabilities. The FAA developed the Screener Proficiency Evaluation and Reporting System (SPEARS), which contains several components, including computer-based training (CBT) and threat image projection (TIP). CBT automates screener training and tests screeners on the material learned, including the ability to detect images of bombs in baggage. TIP electronically projects fictitious images of bags containing bombs or other threat objects on x-ray screens. This training device keeps screeners alert, provides real-world conditions, and measures screener performance.

Screener performance will be assessed in the field for both carry-on bags and checked bags. CBT was introduced in 1997 to category X airports. In 1998, SPEARS will be deployed to select category 1 airports.

In August 1997, the FAA initiated a nationally focused special emphasis assessment of screener evaluation testing. The main aspect of the assessment was to implement realistic testing and to ensure that bags were packed consistently by special agents using common items carried by passengers. The assessment included approximately 950 tests (including weekend testing) conducted by agents who were not known to the screeners.

Information and Access Control

Aviation security is as dependent on the integrity of people who have access to secure areas and information as it is on the capabilities of those people who are associated with the passenger screening process. Rulemaking activities in 1997 included efforts to control unescorted access to restricted areas of airports and restrict the release of sensitive security information.

The FAA published a notice of proposed rulemaking on March 19 to extend employment background checks to include screeners and their supervisors. The rule would require employment history investigations of these individuals and fingerprint-based criminal records checks of some of them. The comment period closed on May 19. The final rule will be published in 1998.

Also in March, the FAA published a final rule, Sensitive Security Information, to require airports, air carriers, foreign air carriers, and indirect air carriers to restrict the distribution, disclosure, and availability of sensitive security information to persons with a need to know.

Universal Access System

In May 1993, Congress appropriated $2 million for the FAA to develop and initiate the implementation of a universal access system (UAS) to eliminate problems associated with multiple airport security systems, without unnecessary duplication or costly reconfiguration.

While a portion of allocated funds was used to develop functional specifications, technical standards, and a test plan, the majority of the funds were used to conduct operational tests and evaluations of the most promising configurations.

Operational testing began in January 1996 at Miami International Airport with Delta Air Lines transient employees. In March 1996, the UAS Test Program began at Detroit Wayne County Airport with Northwest Airlines transient employees. There were approximately 50,000 active air carrier employees in the UAS centralized data base.

While testing was completed in 1997, the UAS doors at Miami and Detroit and the centralized data base at Atlanta remained operational. Throughout the year, several other airports and airlines decided to participate in the UAS based on the body of work that was generated.

Domestic Aviation Security Training

The FAA develops and manages an extensive training program for FAA personnel and others with responsibility for civil aviation security. Aviation security training for FAA specialists is conducted as resident training at the FAA Academy in Oklahoma City, in regional locations, and via interactive video training. The Department of Defense, the Federal Law Enforcement Training Center, and other vendors provide specialized training in physical security, criminal investigations, and other topics at various locations throughout the country. The FAA trained 944 FAA students in basic and advanced aviation security and internal security programs in 1997.

The FAA also conducts seminars and training for State and local law enforcement officers and for airport and air carrier managers and security personnel to encourage successful implementation of policy and regulations and to counter the terrorist threat to air transportation. In 1997, the FAA trained 131 non-FAA students in 5 locations in the continental United States.

Appendix I lists the FAA training courses and student distributions.

Aviation Security: Technology

The skills and integrity of the people involved with aviation security are only part of what makes the aviation system secure. The people must have effective equipment to do their jobs. The FAA and its partners in aviation and other industries work together to pursue advancements in technology and integrate them into the civil aviation security system to enhance the security of the flying public.

FAA Integrated Product Team

In October 1996, FAA formed a Security Equipment Integrated Product Team (SEIPT) of acquisition and security experts representing the FAA, airport authorities, and air carriers. The team s objective is to plan, purchase, and install explosives detection devices and other advanced security equipment at U.S. airports.

Safe Skies

Under an agreement between the FAA and an alliance of industry, academia, and Government organizations, the agency will gain an airport operational testing site for newly developed security technologies.

A 1997 memorandum of understanding (MOU) provided about $1 million to the National Safe Skies Alliance, a nonprofit group that includes the McGhee Tyson Knoxville Airport, Oak Ridge National Laboratories, Honeywell Corporation, American Engineering, Inc., and the University of Tennessee. The centerpiece of the cooperative agreement is the creation of a site for testing new checkpoint screening technologies at McGhee Tyson Knoxville Airport. The program is designed to gauge reactions from the flying public while monitoring the performance of security equipment under actual operating conditions.

The MOU also includes several research and development projects, including studies of airport vulnerability assessments; system integration for security equipment and procedures; explosives detection systems development and testing; and airport and air carrier security operations simulation and modeling.

In 1997, the team began deploying equipment purchased with $144 million provided by the Omnibus Consolidated Appropriations Act of 1997 to implement the recommendations of the White House Commission on Aviation Safety and Security.

Bulk Explosives Detection

Technology today offers different kinds of equipment designed to detect bulk explosives that may be concealed in checked baggage. The equipment varies in the types and amounts of explosives it may detect. Section 108.20 of 14 CFR requires air carriers to use explosives detection systems approved by the FAA to screen checked baggage on international flights when the Administrator so requires. The InVision CTX 5000, which uses computed tomography, was approved in 1994 and remained the only FAA-certified EDS in 1997.

The White House Commission on Aviation Safety and Security recommended checked baggage screening for domestic flights and funding for checked baggage screening equipment. In December 1996, the FAA purchased 54 certified EDS for screening checked baggage. The SEIPT began installation of the equipment in Chicago and New York in January 1997. By December, EDS s were operational in six U.S. cities, with deployments to several more cities planned for 1998. In line with the Commission recommendations, FAA is supplementing the deployment of certified EDS with deployment of other advanced technology for checked baggage screening. These 22 units include enhanced x-rays and other commercially available devices.

Explosives Trace Detection

Explosives trace detection devices have been used to screen carry-on bags and electronic items at airport screening checkpoints since November 1996. Using various technologies, explosives trace detectors can detect explosive vapors and particles. By the end of 1997, the FAA had purchased 220 trace detectors and deployed 128 of these to 30 airports. The FAA plans to purchase 260 more trace detectors by the end of 1998 to use at screening checkpoints and to assist in resolving checked baggage screening alarms from EDS s.

Computer-Assisted Passenger Screening (CAPS)

The large numbers of passengers and bags moving through the aviation system require the use of existing technology to apply time-consuming but necessary security measures. Passenger screening makes the most of limited security resources to keep the aviation system functioning close to current capacity. The computer-assisted passenger screening (CAPS) system was developed by the FAA through a grant to Northwest Airlines in September 1996, which included exporting CAPS to other airlines reservation systems. CAPS was tested operationally on selected flights in Northwest s system in March and April 1997. All other major airlines covering all major reservations systems were given CAPS profiling factors and weights on May 7. A 1997 Department of Justice report on CAPS found that it does not violate individuals civil liberties.

Passenger Bag Matching Using CAPS

On December 23, the Administrator of the FAA and leading U.S. airlines announced that passenger-baggage matching will be expanded using CAPS to apply either examination by explosives detection systems or bag matching to domestic passengers luggage. This is in response to a recommendation by the White House Commission on Aviation Safety and Security that full passenger-baggage matching with automated or manual passenger screening be implemented by December 1997. This process includes matching passengers to baggage to ensure that no unaccompanied bags enter the system. Implementing rulemaking is underway.

Aircraft and Container Hardening

The Aircraft Hardening Program was initiated in 1990 in response to the directives of the President s Commission on Aviation Safety and Security and the mandates set forth in the Aviation Security Improvement Act of 1990.

The goal of the FAA Aircraft Hardening Program is to protect commercial aircraft

Aircraft Vulnerability Testing

The FAA, along with the United Kingdom s Civil Aviation Authority, blew up a Boeing 747 on May 17 as part of a joint effort to study the effects of bomb blasts on commercial wide body aircraft and how to protect against them. Specifically studied were baggage containers and liners developed for cargo areas that would allow aircraft to survive bombings without ruptured fuselage. Four simultaneous explosions were set off in the front and rear cargo holds of the retired 747, which had been pressurized to simulate flight at approximately 35,000 feet.

The results were expected, but startling all the same, as the section behind the wing sheared off near the unprotected rear cargo area. The test results provided important information on methods to protect aircraft from blast events.

from catastrophic structural damage or critical system failure resulting from in-flight explosions. Secondary objectives are to investigate vulnerabilities from the interference of electromagnetic or high-energy signals with aircraft electronic systems and to assess the threat presented by manually operated, highly mobile surface-to-air missiles.

The Hardening Program has included implementing vulnerability studies, explosives testing of current and hardened luggage/cargo containers, and researching manufacturing and maintenance issues associated with hardened structures.

Major program accomplishments for 1997 include: (1) completed operational assessment of LD-3 hardened containers; (2) identified and validated new aircraft vulnerability techniques; (3) identified possible mitigation techniques to counter projected energy and other threats; and (4) developed procedures and rules for man-portable air defense systems (MANPADS).

National Academy of Sciences Panel

In response to a requirement of the Federal Aviation Reauthorization Act of 1996, the National Academy of Sciences Panel on Assessment of Technologies for Aviation Security was established in 1997. The panel will assess the results of the current advanced security equipment deployments, hardened cargo container tests, and planned future deployments and will recommend how to deploy explosives detection systems and hardened containers more effectively to improve security.

Other Safeguards

Programs and measures other than screening also offer safeguards to protect the flying public and the personnel and facilities that keep the aviation system running smoothly.

K-9 Explosives Detection

The FAA instituted a program to reimburse

Interference with Flightcrews Pilot Project

A pilot program designed to deal more effectively with unruly passengers made favorable progress in 1997. The pilot program was begun in November 1996. It is a comprehensive effort led by selected FAA civil aviation security field offices in the Western-Pacific and Eastern Regions and involving air carriers, crewmembers, airport law enforcement agencies, the FBI, and U.S. attorneys to ensure proper and adequate handling of serious in-flight interference with crewmembers (including criminal prosecution if warranted). Approximately 56 incidents on approximately 16 domestic and 10 foreign flag air carriers in specific locations were reported under the program in 1997.

partially airports that volunteer to participate in the FAA s Explosives Detection K-9 Team Program. This is in response to the White House Commission s recommendation that the FAA significantly expand the use of bomb-sniffing dogs through the deployment of 114 additional K-9 teams. Approximately $8.9 million from the Omnibus Consolidated Appropriations Act provided partial reimbursements to the original 87 K-9 teams and the additional teams. The FAA is continuing to work with airports in an effort to expand the K-9 program at each of the 76 largest U.S. airports. By the end of fiscal year 1998, 40 airports are expected to be participating in this voluntary program. The first FAA-exclusive class of K-9 handlers graduated from the Military Working Dog School at Lackland Air Force Base, Texas, on March 25.

In May 1997, the FAA instituted the requirement that all FAA K-9 coordinators participate in FAA K-9 Trained-on-System (KATS) training. KATS is an automated system that provides up-to-date information concerning K-9 proficiency training conducted onboard domestic aircraft. The FAA s goal is to expand this program to encompass *all* explosives detection training conducted on U.S. aircraft.

Federal Air Marshal

The Federal Air Marshal (FAM) Program provides an armed security force whose mission is to protect the traveling public and flightcrews on U.S. air carriers by deterring criminal and terrorist acts that target aircraft in flight. FAM's undergo specialized law enforcement training and maintain very stringent physical fitness and firearms proficiency standards. The FAM operational training facility is located at the FAA William J. Hughes Technical Center, Atlantic City, New Jersey. The FAM force is capable of rapid deployment worldwide. During 1997, FAM's provided in-flight security on flights of all major U.S. air carriers to and from 82 cities in more than 50 countries. Just knowing that FAM's could be on board aircraft may deter individuals planning to interfere with flights.

Dangerous Goods and Cargo Security Program

The Dangerous Goods and Cargo Security (DG/CS) Program is responsible for ensuring that shipments of dangerous goods (hazardous materials) and other cargo by air are made safely and in accordance with established regulations.

The DG/CS Program has approached the problem of compliance through a combination of enforcement, trend analysis, and outreach. Dangerous goods and

cargo security inspections are being conducted at air freight forwarder facilities, aircraft repair stations, and air shipper facilities as well as at air carrier facilities.

Inspections and other program activities are underway at foreign locations for air carriers and others involved in the air transport of dangerous goods and cargo. Data systems have been developed to target shippers or carriers who are repeat offenders or who handle materials that present a higher degree of danger. In addition, outreach efforts are focusing on particular groups demonstrating lax attitudes or ignorance or misunderstanding of dangerous goods regulations.

Courier Shipments Reviewed

Security controls over accompanied commercial air courier shipments underwent closer scrutiny in 1997. The FAA and the DOT Office of the Inspector General have been performing intensive oversight inspections of such shipments presented for flight aboard passenger-carrying aircraft to ensure that: (1) air carriers and indirect air carriers are following FAA-approved security programs; (2) indirect air carriers are declaring and documenting all shipments, including hazardous materials; and (3) shippers are properly packaging, marking, labeling, and documenting all hazardous materials. The FAA Office of Civil Aviation Security has been reviewing FAA requirements and procedures for accompanied commercial air courier shipments.

Focused inspections were conducted in four major cities in 1997, targeting air carrier repair stations, indirect air carriers, air carriers, and shippers. A cargo security special emphasis assessment on air carrier small package acceptance was performed as well as three cargo security special emphasis assessments conducted jointly with the DOT Office of the Inspector General. Depending on the violations uncovered, responses ranged from consultation and information to proposals of civil penalties or even criminal charges.

A major emphasis in 1997 was the use of conferences, safety advisories, brochures, and a new video to educate the public and the regulated industry on shipping dangerous goods. The FAA has become increasingly involved in ongoing meetings and discussions with all major air transport trade associations. The FAA distributed a safety advisory that outlined requirements for transporting air carrier company materials and oxygen generators to approximately 5,000 air carrier repair stations. Also, the FAA produced jointly with the DOT Research and Special Programs Administration a new video entitled Ensuring Safety: Transporting Hazardous Materials by Air. The video offers a comprehensive overview of dangerous goods regulations to help educate the regulated public.

Cargo Baseline Working Group

The Cargo Baseline Working Group (CBWG) of the Aviation Security Advisory Committee (ASAC), formerly the Cargo Working Group (CWG), was formed in September 1996 to develop an effective and efficient security baseline for air cargo. Its membership includes representatives from all elements of the cargo industry. The group provided recommendations to the ASAC that were included in the ASAC Domestic Security Baseline Final Report, submitted in September 1996.

After the White House Commission on Aviation Safety and Security recommended that the FAA implement a comprehensive plan to address the threat of explosives and other threat objects in cargo and that it work with industry to develop new cargo security initiatives, the group was reconvened. The CBWG compared the White House Commission recommendations with those of the ASAC and provided amplified recommendations to the ASAC.

In May 1997, the FAA issued proposed amendments to the standard security programs for U.S. air carriers, couriers, freight forwarders, and cargo consolidators as well as the model security program for foreign carriers to enhance aviation cargo security. Several major changes are being proposed as a result of recommendations made by cargo industry representatives, including known versus unknown shipper criteria and specific cargo screening procedures. The revised proposed amendments are expected to be published for comment in 1998.

Drug Interdiction

Investigations conducted by special agents in the Drug Investigations Support Program (DSIP) resulted in 248 airmen certificate revocations in 1997. The 248 revocations are due to the success of the FAA/Federal Bureau of Prisons and Federal Probation and Parole match programs in which inmate, probation, and parole records are matched against the Airmen Registry. Airmen convicted for drug smuggling are subject to certificate action.

There were also 45 airmen certificate suspensions and 4 aircraft registration certificate revocations in 1997.

Protecting the Infrastructure

The FAA continued in 1997 the steady development of its Security Risk Management (SRM) Program to implement the standards called for in the Department of Justice (DOJ) report of June 28, 1995, the recommendations of the President s Commission on Critical Infrastructure Protection, and other national policy guidance to reduce the vulnerability of the agency s employees and critical infrastructure to criminal and terrorist attacks.

In its full scope, the SRM Program is designed to be a joint effort on the part of all lines of business within the agency to address on a continuing basis the security risk management needs of the FAA s more than 47,000 employees and contractor personnel. It also ensures the integrity of the FAA s critical infrastructure and National Airspace System support capability by establishing and maintaining through security risk management an acceptable level of risk of criminal and terrorist attacks at the agency s more than 1,000 staffed facilities and 8,500 unstaffed facilities.

The Administrator created the Facility Security Risk Management Committee (FSRMC) in 1995, with representation from all FAA lines of business, to oversee and monitor the SRM Program and to report to and advise the Administrator on the status and conduct of SRM agencywide.

President s Commission on Critical Infrastructure Protection (PCCIP)

The PCCIP was established in July 1996 to conduct a comprehensive review of and recommend a national policy and implementation strategy for protecting critical infrastructures against physical and cyber threats and ensuring their continued operation.

The PCCIP submitted its report, Critical Foundations Protecting America s Infrastructures, in October 1997. The report contains the recommendations of the Vulnerability Assessment of the National Airspace System (NAS) to protect the modernized NAS from information-based and other attacks.

Joint SRM assessments of the FAA s assets are continuing, with priority emphasis on identifying the vulnerabilities and risks to FAA personnel and to the agency s other most critical assets.

International Aviation Security

Aviation security is a worldwide concern. The FAA s security efforts are focused primarily on U.S. airports, U.S. air carriers, wherever they fly, and foreign air carriers that service the United States. But the FAA and other governments work together to raise the levels of security provided by all air carriers and airports. Global aviation requires global cooperation to ensure aviation security.

International Civil Aviation Organization (ICAO)

ICAO is a specialized agency of the United Nations that was established by the Chicago Convention in December 1944. ICAO establishes international aviation security Standards and Recommended Practices (SARP) for its 183 Member States. The Associate Administrator for Civil Aviation Security works closely with ICAO to strengthen these standards and to ensure compliance with them throughout the international aviation system. Amendment 9 to Annex 17 of the Chicago Convention, which raises cargo security, was approved by the ICAO council to become effective on April 1, 1997, with an implementation date of August 1, 1997. The Aviation Security Panel, comprising representatives from 15 Member States and a number of industry observers, met in September 1997.

Recognizing the importance of aviation security in ICAO and the needs of its expanded aviation security office, the United States continues to provide two FAA security specialists for ICAO at no expense to the organization. ICAO uses these specialists to conduct security surveys and training for countries in need throughout the world.

European Civil Aviation Conference (ECAC)

The ECAC is an intergovernmental consultative organization that was established in 1955 by the Council of Europe with the active support of ICAO. ECAC s objectives are to encourage the safe and orderly development of civil aviation to, from, and within Europe. The Conference in 1997 comprised 37 Member States.

In the field of security, ECAC s objective is to ensure the maximum level of security possible within ECAC and with its partners serving its airports. ECAC Member States apply ICAO Annex 17 standards and recommended practices. In addition, supplementary measures appropriate to the conditions pertaining to Europe are promulgated by ECAC through its frequently revised security

manual. While the aviation security measures contained in the manual are not mandatory, the expectation within ECAC is that all Member States will comply. The United States (FAA), Canada, and Israel have been granted permanent observer status on the ECAC Security Committee.

Civil Aviation Security Liaison Officers (CASLO)

Civil aviation security liaison officers, in all but four instances, are located overseas. There currently are 20 CASLO s who report directly to the Associate Administrator for Civil Aviation Security. They are the primary FAA contacts with U.S. embassies and host governments on civil aviation security matters. Primary responsibilities include helping U.S. and foreign air carriers implement FAA security requirements, the exchange of threat information, and onsite FAA coordination during aviation security incidents. Appendix II lists CASLO locations and the geographic areas covered.

Foreign Air Carrier (FAC) Security

CFR part 129 requires foreign air carriers operating to the United States to submit security programs to the FAA for acceptance for their operations to, from, and within the United States. The foreign air carriers may adopt the model security program (MSP) prepared by the FAA, submit their own security programs for review, or refer the FAA to foreign governments that perform security procedures at last points of departure to the United States.

At the end of 1997, there were 173 foreign air carriers operating to and from the United States that were required to have security programs acceptable to the FAA Administrator. All foreign air carriers have been required since September 1992 to adopt a security program acceptable to the FAA Administrator for operations to and from the United States. Foreign air carriers have adopted either the FAA's MSP or have submitted acceptable programs that meet the performance standards contained in the MSP.

Identical Measures

The Antiterrorism and Effective Death Penalty Act, passed by Congress in April 1996, changed 49 U.S.C. section 44906. Formerly, the FAA was required to ensure that passengers were provided a level of protection when flying to or from the United States on foreign air carriers similar to that provided when flying on U.S. air carriers from those same airports. The Act changed section 44906 to require foreign air carriers traveling to and from U.S. airports to have security measures identical to those for U.S. air carriers flying from those same airports. A notice of proposed rulemaking on identical security measures for foreign air carriers was forwarded in April 1997 to the Office of the Secretary of Transportation for final review.

The FAA continuously assesses threats against all foreign air carriers and will not hesitate to discuss and, if necessary, impose additional security measures to meet any threat.

Foreign Airport Assessments

Chapter 449 of title 49 of the United States Code requires the Secretary of Transportation to assess the effectiveness of the security measures maintained at foreign airports: 1) served by U.S. airlines; 2) from which foreign airlines provide service to the United States; 3) that pose a high risk of introducing danger to international travel; 4) and at other airports considered appropriate by the Secretary of Transportation.

In 1997, approximately 225 foreign airports qualified for assessment under the law; this number fluctuates as changes in air carrier service occur. The number of FAA assessments conducted at each foreign airport is determined by criteria like current resources and threat conditions.

The FAA focuses resources on those airports that may have difficulty sustaining effective security measures. These focused efforts include interagency actions to alert aviation officials to potential vulnerabilities. This enables the respective host governments to take action to resolve security concerns before serious deficiencies develop. When the determination has been made that a foreign airport does not administer and maintain effective security measures, the Secretary of Transportation may initiate action such as public notification or suspension of service.

The FAA conducted 80 foreign airport assessments in 1997. As a result of these assessments, the FAA sought to strengthen the international civil aviation security system by offering security enhancement recommendations to airport and government officials from multiple countries. Most of the recommendations fell into the categories of access control, airport administration, passenger screening, airport emergency planning, national administration, baggage and cargo security controls, and law enforcement support. Onsite training and technical assistance were offered on numerous occasions.

In 1997, a secretarial action for Lagos, Nigeria, was in effect. On October 8, 1992, an assessment of Murtala Muhammed International Airport in Lagos

resulted in the issuance of immediate public notification without the usual 90-day action notice. As a result of public notification, the FAA provided technical assistance and security training to the Nigerian Government for 9 months.

In July 1993, a second assessment was conducted in Lagos. On August 11, 1993, the Secretary of Transportation suspended air service between the United States and Lagos, citing the failure of cognizant authorities to correct deficiencies satisfactorily. Another assessment was conducted in April 1994, and the Secretary determined that the suspension should remain in effect. An interagency team returned to Lagos in November 1995 to evaluate the impact of corruption on aviation security. As of the end of 1997, the Secretary s suspension order remained in place.

International Aviation Security Training

The FAA provides aviation security training to international airport managers from developing countries. In 1997, 187 students from 5 countries attended training at the FAA Academy in Oklahoma City and in Saudi Arabia. Courses and student distribution are listed in Appendix I.

The FAA also participates in the Department of State (DOS) Anti-Terrorism Assistance Program (ATAP). This program provides technical assistance to foreign countries by conducting training needs surveys of foreign airports. The results may lead to ATAP s providing either the aviation security training or technical support, or both, necessary to bring the airport into compliance with ICAO standards.

Senior foreign government officials responsible for aviation security participate in intensive training programs that enhance their ability to administer comprehensive programs designed to prevent or deter violent criminal acts against aviation. This cooperative effort with DOS ensures that the security concepts and techniques are integrated and applied worldwide to enhance aviation safety and security.

In 1997, ATAP provided technical assistance to Ethiopia, and training needs surveys were conducted in Saudi Arabia, Ethiopia, Eritrea, Uganda, Yemen, United Arab Emirates, Qatar, and Kuwait. Also, ATAP provided training for students from El Salvador, Senegal, Malaysia, Honduras, and Saudi Arabia in airport security management at the FAA Academy in Oklahoma City and in Saudi Arabia.

CONCLUSION: Criminal Acts Against Civil Aviation

During 1997, the FAA continued its efforts to implement the recommendations of the White House Commission on Aviation Safety and Security, demonstrating its commitment to strengthening the security of the U.S. civil aviation system. Aviation security partnerships, legislation, funding, and the application of additional and enhanced security measures have made the U.S. aviation system less vulnerable to criminal and terrorist acts. Continuing to apply additional Federal, State, local, and aviation industry resources to combating criminal and terrorist acts against U.S. civil aviation should help ensure that the U.S. civil aviation will remain the safest and most secure aviation system in the world.

When TWA flight 800 exploded in midair off Long Island in July 1996, a bomb explosion or a missile attack was suspected. Although the National Transportation Safety Board has not determined the exact cause of the crash, it has ruled out the possibility of a bomb or a missile and believes that catastrophic mechanical failure was to blame.

Nearly 10 years have passed since the last bombing of a U.S. civil aviation aircraft--Pan Am flight 103 in 1988. The threat of such an attack against U.S. civil aviation has not disappeared, however, as proven by events of several years ago.

In January 1995, Philippine police uncovered a plot to blow up as many as 12 U.S. airliners operating from the Pacific region. This plot involved the placing of explosive devices on U.S. air carriers operating from overseas locations. The mastermind of the plot, Ramzi Ahmed Yousef, was convicted in a U.S. court in September 1996 for his role in this conspiracy and for placing a device on a Philippine Airlines plane in December 1994. The device exploded while the plane was in midair, killing one passenger.

Yousef was convicted in November 1997 on conspiracy and bombing-related charges stemming from the 1993 World Trade Center bombing. This attack, as well as a separate and unrelated 1993 plot to bomb a number of targets in New York City, demonstrated that foreign terrorists have the capability and intention to target the United States.

In 1997, there was one incident worldwide involving the detonation of a bomb aboard an aircraft. The incident occurred in September in Brazil on a domestic airliner during an internal flight. A passenger who apparently was suicidal brought the bomb on the plane. He reportedly was injured in the midair explosion, but another passenger fell through a hole in the fuselage created by the blast and was killed.

There were no hijackings recorded either in the United States or aboard U.S.-registered aircraft in 1997. The last hijacking in the United States, and the most recent incident involving a U.S. air carrier, occurred in 1991. Only one hijacking incident has occurred aboard a U.S.-bound, foreign-registered aircraft in the past 5 years. In December 1993, an Air China flight from Beijing, China, to New York s John F. Kennedy International Airport was diverted to Shanghai after a passenger claimed to have a bomb and demanded to be taken to Taiwan.

During the past 5 years, 87 hijackings have been recorded worldwide. The majority of these incidents took place on domestic (internal) routes; only 25 aircraft were on international flights. Ten hijackings were recorded in 1997, including eight on domestic flights.

The overall number of incidents can serve as a rough index of the level of criminal activity involving commercial aircraft. Because of the differences in situations specific to individual countries and varying motivations among perpetrators, any generalizations must be very carefully drawn.

APPENDIX I

FAA Training Distribution

Course Title	FAA	Non-FAA	INT'L
CAS Instructor Development Workshop (70000)	55		
CAS On-the-Job Instructor Training (70001)	12		
FAA Investigations (70020)	46		
FAA Facilities Inspections (70023)	18		
International Airport Assessments and Inspections (70026)	44		
CAS Special Agent (CORE) Training (70028)	192		
CAS Countermeasures Technology-CORE (70029)	117		
Security Countermeasures/Technology Seminar for Current Sup/Mgr/CASI (70030)	141		
Airport and Air Carrier Compliance and Enforcement (70034)	41		
Air Transportation of Dangerous Goods-Basic (70401)	65		
Cargo Security-Basic (70402)	50		
DG-Cargo Coordinators Seminar-DC (70403)	23		
DG Attorney Course-Basic Overview (70404)	20		
Technical Briefing for DG Outreach (70470)	11		
Canine Coordinators Seminar-CMD (70500)	39		
DG Refresher-IVT (75200)	91		
Civil Aviation Security-International (70013)			19
CAS Seminar for International (Tuition) (72100)			27
Communications Security (COMSEC) Account Management/STU III (70300)	9		
Civil Aviation Security Seminar (70012)[1]		131	
DOS ATAP Airport Security Management Course-Oklahoma City[2]			93
DOS ATAP Airport Security Management Seminar-Saudi Arabia			48
TOTAL STUDENTS	974	131	187

1 Five classes were conducted at the following locations: Dulles/Washington, DC; Palm Beach, Florida; Grand Rapids, Michigan; Columbus, Ohio; San Francisco, California.

2 Four classes were conducted for participants from the following countries: El Salvador; Senegal; Malaysia; Honduras.

APPENDIX II

Civil Aviation Security Liaison Officers Locations and Areas Covered

Location	Area Covered
Paris	France, Morocco, Algeria, Tunisia, Senegal
Vienna	Austria, Bulgaria, Croatia, Hungary, Moldova, Romania, Slovenia, Bosnia-Herzegovina, Serbia, Montenegro
Rome	Italy, Israel, Turkey, Lebanon, Bahrain, Saudi Arabia, Jordan, Kuwait
Copenhagen	Denmark, Norway, Sweden, Finland
Athens	Greece, Former Yugoslav Republic of Macedonia, Albania, Cyprus, Egypt
Frankfurt	Germany, South and East Africa
London	United Kingdom, Ireland, Iceland
Madrid	Spain, Portugal, Cape Verde, Ghana
Brussels	Switzerland, Netherlands, Belgium, Luxembourg
Brussels	Poland, Commonwealth of Independent States, Baltic States, Ukraine, Russian Federation
Sydney	Australia, New Zealand, Pacific Islands, Micronesia
Bangkok	Thailand, Hong Kong, Vietnam, Taiwan, China, Laos, Cambodia
Singapore	Singapore, Malaysia, Indonesia, Papua New Guinea, Brunei, India, Pakistan
Tokyo	Japan, Korea
Buenos Aires	Argentina, Brazil, Uruguay, Bolivia, Chile, Paraguay
Manila	Philippines
Miami (3)	1) Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua; 2) Colombia, Ecuador, French Guiana, Guyana, Panama, Peru, Suriname, Venezuela; 3) Caribbean Islands
Dallas-Ft. Worth	Mexico