
Office of Inspector General
Audit Report

Aviation Safety

Federal Aviation Administration

Report Number: AV-1999-069

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Memorandum

**U.S. Department of
Transportation**

Office of the Secretary
of Transportation

Office of Inspector General

Subject: INFORMATION: Aviation Safety
Federal Aviation Administration
Report No. AV-1999-069

Date:

From: Kenneth M. Mead
Inspector General

Reply to
Attn of:

To: Federal Aviation Administrator

On March 10, 1999, at a hearing before the Subcommittee on Transportation and Related Agencies, Committee on Appropriation, we provided observations on Aviation Safety. A copy of our statement is attached for your information.

The testimony addressed three areas where the Federal Aviation Administration (FAA) and industry can make a safe system safer. Specifically, our testimony addressed: (1) initiatives to respond to rising levels of runway incursions and operational errors, (2) programs to obtain and use safety data to target inspections, and (3) opportunities to enhance safety surveillance and be more proactive in reducing risks.

The Office of Inspector General will continue to monitor FAA's progress in improving aviation safety. Later this year, we will be issuing separate reports on our work on the FAA's runway incursion program and oversight of the air tour industry.

If I can answer any questions or be of any further assistance, please call me at x61959 or Alexis M. Stefani, Deputy Assistant Inspector General for Aviation, at x60500.

Attachment

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**Before the Subcommittee on
Transportation and Related Agencies,
Committee on Appropriations,
U.S. House of Representatives**

For Release on Delivery
Expected at
10:00 a.m. EST
Wednesday
March 10, 1999
Report No: AV-1999-069

Federal Aviation Administration: Aviation Safety

**Statement of
Alexis M. Stefani
Deputy Assistant Inspector General for Aviation
U.S. Department of Transportation**



Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify today to discuss aviation safety. To fund its aviation safety programs in Fiscal Year (FY) 2000, the Federal Aviation Administration (FAA) requested \$667.6 million of operations funding, a 5.9 percent increase over last year's appropriated amount.

We commend both FAA and U.S. air carriers, including commuter airlines, for the zero fatal accident record in 1998. For 1998, U.S. air carriers transported an estimated 615 million passengers without a fatal accident.

The Department of Transportation's (DOT) number one strategic goal is transportation safety. We want to make special note of the priority that Secretary Slater has placed on transportation safety. The Secretary has made it clear that this goal is the "North Star" for all to follow. Supporting the safety goals of DOT, we included the oversight of aviation safety as one of our Top 10 Management Issues of the DOT.

The aviation industry expects continued increases in air traffic. From 1999 to 2008, the forecasted growth is 236.1 million additional enplanements (an increase of 66 percent) for domestic traffic and 39.3 million additional enplanements (an increase of 59.2 percent) for international passenger traffic. FAA and the industry also expect closer spacing between aircraft due to more precise, satellite-based tracking and navigation capabilities.

With the exception of 1998, the U.S. aviation accident rate has remained relatively unchanged over the past 20 years. However, with the anticipated growth in traffic, a flat accident rate will statistically lead to an increase in the number of accidents in the absence of action by FAA and the aviation industry.

FAA has recognized this risk. It has a strategic plan safety goal to bring about an 80 percent reduction in aviation fatal accident rates by the year 2007. FAA has also adopted the Safer Skies safety agenda. This safety agenda spotlights the leading causes of accidents or incidents in three areas—commercial aviation, general aviation, and cabin safety. Within these spotlighted areas, FAA will focus on a limited number of safety issues including runway incursions.

Our statement today will address three areas where FAA and industry can make a safe system safer. We will discuss (1) initiatives to respond to rising levels of runway incursions and operational errors, which are two precursors of safety risks, (2) programs to obtain and use safety data to target inspections, and (3) opportunities to enhance safety surveillance and be more proactive in reducing risks.

- In the past 6 years, the number of runway incursions has steadily increased from 186 in 1993 to 325 in 1998. We previously reported on FAA's efforts to reduce the number of runway incursions. In 1998 FAA established initiatives and a goal to reduce the number of runway incursions by 15 percent of the 1997 baseline level by the year 2000¹. The agency is at risk of not meeting this objective.

FAA's action plan was developed to strengthen runway incursion prevention efforts. The plan identifies 51 specific actions to reduce runway incursion accidents and assigns responsibilities at the regional and headquarters levels to oversee and coordinate runway incursion initiatives and projects. Our recent testimony on air traffic control modernization addressed air traffic control technology that could aid in the prevention of runway incursions.²

In 1998, runway incursions increased 11 percent over 1997 from 292 to 325. During a recent follow-up review, we found that FAA had not set aside the funds needed to support the initiatives and projects in the runway incursion action plan. As a result, FAA has made limited progress in implementing its plan, and milestones have been missed and extended. In our opinion, *FAA's action plan establishes a very sound foundation to effectively reduce the number of runway incursions; the challenge now is to set aside the funds and follow through on the plan.*

FAA included a goal in the DOT Fiscal Year 2000 Performance Plan to reduce the rate of operational errors by 10 percent by the end of FY 2000. This establishes a goal of 0.486 operational errors per 100,000 operations. The agency is also at risk of not meeting this objective. Operational errors may compromise safety and cause pilots to take evasive action. The operational error rate has risen from 0.48 in FY 1997 to 0.55 in FY 1998. Recognizing upward trends in operational errors, FAA established initiatives for reducing the occurrence rate, including mandatory training and expanded reviews of operational errors to identify causal factors. Because FAA is taking action to address this issue, we are not making recommendations in this area at this time.

- FAA is moving forward with its plan to implement regulations to obtain commercial air carrier safety data and analyze this data to proactively identify safety risks. These regulations would fully establish a Flight Operations

¹ FAA is using a 1997 baseline level of 318, although the FAA database shows 292 runway incursions for 1997.

² Air Traffic Control Modernization, Report Number AV-1999-065, March 9, 1999.

Quality Assurance program. Flight Operations Quality Assurance programs obtain and analyze data recorded on the aircraft's electronic recording devices while in flight and would be voluntarily provided to FAA. This data can be used to identify technical flaws or unsafe practices early enough to allow intervention to prevent accidents or incidents. Ordinarily, the data would not be available to FAA. The Flight Operations Quality Assurance program final rule was originally scheduled for completion in June 1997. However, the notice of proposed rulemaking is being redrafted and completion of the final rule has been delayed until at least September 1999. The delay was in part the result of concerns by airlines. They were concerned about data protection and how the voluntarily-provided data would be used by FAA.

In a December 1998 policy statement, FAA established a position on the use of voluntarily-provided data to address the concerns of industry. FAA agreed to waive enforcement actions except on the most flagrant violations. The Department of Justice has expressed concerns about FAA setting precedents by waiving enforcement actions in exchange for airlines voluntarily providing Flight Operations Quality Assurance data. FAA must continue its efforts to move forward with this program in order to realize the value-added safety benefits of the program.

FAA is also reengineering its air carrier oversight system to make use of safety data to monitor air carrier performance and target resources to the highest risk areas. Recommended in 1996, the Air Transportation Oversight System has been initiated at 10 air carriers. The effectiveness of this new safety oversight system will be reduced if planned FY 1999 budget cuts prevent hiring of the staff needed to analyze the data.

- FAA has opportunities to enhance nationwide safety in the air tour industry. After FAA strengthened its regulations and oversight in the Grand Canyon and Hawaii, the number of accidents dropped dramatically, from 25 before the rules to 3 after the rules. FAA needs to issue rulemaking that would extend more stringent safety and FAA oversight requirements to air tour operators nationwide.

Investigation of suspected unapproved parts remains one of our priority programs because of the adverse impact these parts have on public safety and the airline industry. Suspected unapproved parts continue to be a problem and represent about 14 percent of our investigative caseload. During the past several years, FAA has taken positive steps to combat unapproved parts issues and improved the working relationship with us and other law enforcement agencies. One of the most notable items is the unapproved parts training program for its safety workforce. To date, approximately 1,850 safety

inspectors have received the training. The FAA also provides technical assistance and support to law enforcement agencies investigating unapproved part issues and participates in quarterly meetings with law enforcement to enhance the relationship.

In addition, our recent work on threaded aviation fasteners and components (screws, nuts, and bolts with threads and threaded products, such as engine drive shafts) indicates that quality control oversight of the manufacturing of these fasteners may need to be strengthened. The problem has been found in military fasteners. For example, our tests of 23 different types of threaded fasteners at the U.S. Coast Guard Aircraft Repair and Supply Center disclosed that 18 of 23 had failure rates of 10 percent or more. Since manufacturers of military fasteners usually produce commercial aviation parts, we are currently reviewing FAA's oversight of manufacturers' quality assurance systems for threaded fasteners and components.

To further accomplish its goal to reduce the fatal accident rate, FAA must use data to identify safety problems and effectively deploy safety-inspection resources. Its aviation safety management programs can be proactively enhanced by establishing management systems that ensure safety risks are identified and that safety indicators are called to the attention of top FAA management and are promptly acted upon. In an aviation environment that projects significant increases in air traffic, a proactive approach is essential.

INITIATIVES TO RESPOND TO RISING NUMBERS OF RUNWAY INCURSIONS AND OPERATIONAL ERRORS

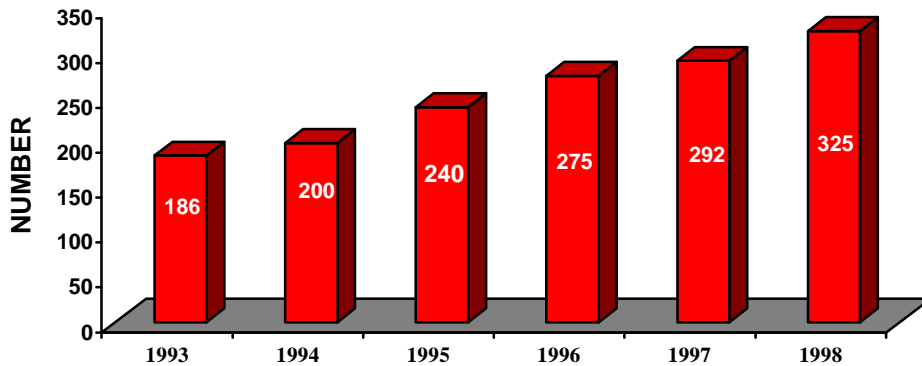
DOT included a goal in the FY 2000 Performance Plan to reduce the number of runway incursions by 15 percent in FY 2000 from the 1997 baseline. Also included in the Performance Plan is a goal to reduce the rate of operational errors by 10 percent in FY 2000 from the 1994 baseline. Both goals are at risk of not being met.

- ***Runway Incursions*** - In the 1998 Safer Skies Agenda, FAA identified runway incursions for commercial aviation and general aviation as focus areas for targeting resources to prevent accidents. FAA defines a runway incursion as "any occurrence at an airport involving an aircraft, vehicle, person, or object, on the ground, that creates a collision hazard or results in loss of separation with an aircraft taking off, intending to take off, landing, or intending to land." FAA's definition applies only to airports with operating air traffic control towers.

Runway incursions can have serious consequences. Since 1972, 11 runway accidents claimed 719 lives and destroyed 20 aircraft. Since 1990, 4 major runway accidents claimed 45 lives.

In February 1998, we reported that FAA must have a stronger and more focused runway incursion program to solve systemwide and airport specific problems³. We made eight recommendations to assist FAA in its runway incursion reduction efforts, and FAA agreed to implement them by the end of 1998. In a recent follow-up review to that report, we found shortfalls in FAA's progress to improve its runway incursion efforts. The upward trend in the number of runway incursions continues as shown in the following chart. The runway incursion rate also increased from .46 per 100,000 airport operations in 1997 to .51 in 1998.

RUNWAY INCURSIONS
1993-1998



In October 1998, FAA issued an action plan to help it reach its goal to reduce runway incursions to no more than 270 by the year 2000. The plan (1) established a systemwide strategy to reduce or eliminate runway incursions and accidents, (2) implemented recommendations to strengthen runway incursion prevention activities, (3) identified specific and measurable actions and target dates, and (4) implemented low-cost initiatives most likely to reduce runway incursions in the near term. The plan provides a very strong

³ Runway Incursion Program, Report Number AV-1998-075, February 9, 1998.

foundation toward FAA's effort to reduce runway incursion accidents. FAA, however, has made limited progress in implementing its plan, and project milestones have been missed or extended.

FAA has completed action on two of the eight recommendations. FAA issued its runway incursion action plan in 1998 and initiated use of the National Aeronautics and Space Administration's (NASA) transgression⁴ data to aid in identifying potential problem airports. FAA needs to completely satisfy the remaining six recommendations. These include ensuring the accuracy of runway incursion data, improving regional and local focus on reducing runway incursions, and completing a joint project with the Aircraft Owners and Pilots Association to educate general aviation pilots on runway incursions. The joint two-phased project with the Aircraft Owners and Pilots Association to educate general aviation pilots on runway incursions is very important. General aviation pilots caused 121 of 189, or 64 percent, of the 1998 runway incursions attributed to pilot deviations.⁵

Also, FAA's runway incursion database, which is needed to identify causal trends or problem airports and better target actions needed, continues to have a significant number of preliminary incident reports that are overdue. For example, on July 26, 1995, FAA reported a pilot deviation on the runway at the airport in Reno, Nevada. While a preliminary determination was made that it was a runway incursion, a final investigative report has not been sent in to validate that it was in fact a runway incursion. FAA field facilities are required to report final investigative reports of operational errors and pilot deviations to Headquarters within 40 and 90 days. As of February 1999, there were 16 operational errors and 24 pilot deviations that occurred in 1995 through 1998 that had not been validated and finalized.

Although FAA has made progress by issuing the action plan, FAA did not identify the funding needed for the plan's initiatives. The challenge now is for FAA to set aside the funds needed to support planned actions and projects in the action plan in order to have a successful runway safety program targeting runway incursions.

- **Operational Errors** – Recognizing an increase in operational errors, FAA included a goal in the DOT FY 2000 Performance Plan to reduce the

⁴ NASA defines runway transgressions as an "authorized penetration of an active runway by an aircraft, vehicle, or person without regard to loss of separation with another aircraft."

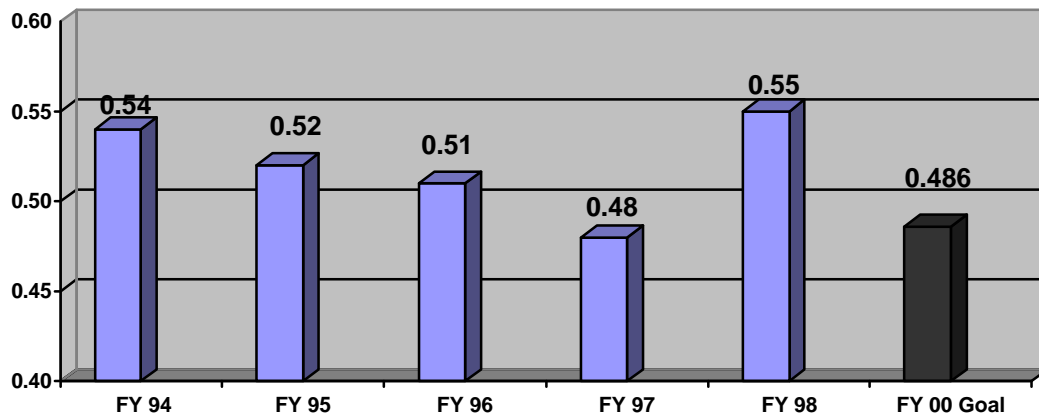
⁵ Pilot deviations and operational errors are two types of runway incursions. The first involves the pilot and the second involves the controller.

operational error rate and established initiatives to reach this goal. Operational errors are occurrences attributable to air traffic control personnel that result in less than the required separation between aircraft. The FY 2000 Performance Plan states that one of the fundamental principles of aviation safety is “separation” – the need to maintain a safe distance from other aircraft, terrain, obstructions, and certain airspace not designated for routine air travel. The breach of separation may be between two or more aircraft, or between an aircraft and terrain or obstacles.

Operational errors may compromise safety and cause pilots to take evasive action. It is important to determine the causes of operational errors in order to establish initiatives to reduce the occurrence of errors. It is also important to act now to reduce operational errors because of projected increases in air traffic.

FAA included a goal in the DOT FY 2000 Performance Plan to reduce the rate of operational errors by 10 percent from the 1994 baseline by the end of FY 2000. The following chart shows the operational error rates for the last 5 years and the goal.

Operational Error Rate
(Per 100,000 Operations)



Recognizing upward trends in operational errors, in September 1997 and again in May and June 1998, FAA took action to reduce the rate of operational errors. These initiatives include expanding quality assurance reviews of air traffic controller performance deficiencies, issuing facility alert bulletins to alert air traffic controllers of causal factors, and providing mandatory training and “lessons learned” from recent operational errors to air traffic controllers.

Because FAA is taking action to reduce the rate of operational errors, we are not making recommendations in this area at this time.

OBTAINING BETTER DATA AND TARGETING INSPECTIONS

The General Accounting Office, an FAA internal study and we have all pointed to the need for FAA to change its inspection process to better target its safety inspection resources. In its 1996 90-Day Safety Review, FAA performed a self-review to improve the safety of its aviation system, especially with respect to safety inspections. FAA made two key recommendations to: (1) develop air carrier safety partnership programs such as Flight Operations Quality Assurance and (2) make FAA surveillance of air carriers more systematic and targeted to deal with identified risks. In line with FAA's Safer Skies agenda, these recommendations present opportunities for FAA to obtain better safety data on aircraft operations which can be analyzed and used to proactively reduce safety risk.

- **Flight Operations Quality Assurance (FOQA)** - FOQA programs are voluntary efforts by air carriers to use flight data to detect technical flaws, unsafe practices, or conditions outside of desired operating procedures early enough to allow timely intervention to avert accidents or incidents. The source of FOQA data is on-board electronic devices, "black boxes," that record various flight data parameters such as directional heading, speed, altitude, throttle settings and the performance of engines and flight control systems. Aircraft equipped with state-of-the-art electronic sensors can record more than 200 parameters of data for safety analysis.

To receive the full benefits of quantitative data collected by the airlines from thousands of flights, FAA wants the airlines to voluntarily provide the information. FAA would analyze the data to identify safety trends. Such data could be used to identify faults in aircraft certification and airspace traffic routings. Without a FOQA program, this safety data would otherwise not be available to FAA. FOQA provides a decided advantage to other safety data available to FAA because it would provide objective quantitative data on what occurs during flights rather than what is subjectively reported by individuals.

In Europe for the past 20 years, air carriers and civil aviation authorities have been sharing FOQA data. The sharing of data has had a positive effect on aviation safety such as the identification of unwanted trends in flight operations and air traffic control directions.

Currently, FAA does not have the benefit of shared FOQA data. Although a few major U.S. air carriers have implemented internal programs, a national

program to include all airlines and the sharing of FOQA data with FAA has yet to be achieved. For U.S. air carriers, the principal barrier to sharing FOQA information has been data protection concerns. FAA worked to overcome three principal data protection obstacles: (1) use of the data for enforcement/disciplinary purposes, (2) disclosure to the media under provisions of the Freedom of Information Act, and (3) disclosure through the civil litigation process.

To address the concerns raised by industry, FAA has taken a number of actions. In December 1998, FAA issued a policy statement that provides the framework for a proposed rulemaking to address the data protection concerns of the industry. This policy should advance the progress of the proposed rulemaking. A draft notice of proposed rulemaking submitted to DOT has been withdrawn and is being revised. FAA now projects that it will not complete the rulemaking to implement FOQA until September 1999. FAA's original target date for completing this effort was June 1997.

Another area of concern currently being debated is the implication of the FOQA rule on how other Government agencies will treat voluntary disclosure programs when the disclosure indicates a violation of a rule or regulation. Of particular interest is balancing the public good to be obtained from analysis of safety data. The Department of Justice has expressed concerns about FAA setting precedents by waiving enforcement actions in exchange for airlines voluntarily providing Flight Operations Quality Assurance data.

One option FAA might consider to gain industry and Government acceptance would be to include a sunset provision for the FOQA program in the final rule. Before the program would be allowed to continue, FAA, other Government agencies, interested parties and air carriers would assess the program for evidence of value-added safety benefits.

- **Air Transportation Oversight System (ATOS)** - To improve its monitoring of air carriers, FAA has reengineered its air carrier oversight process. Before ATOS, the core of FAA's air carrier oversight system was compliance with regulations to ensure safety. ATOS will allow FAA to target its resources based on risk factors identified by data and system safety analysis before accidents occur. In this new system, FAA will use specific risk indicators, such as key personnel changes, aging aircraft, enforcement actions, and significant reliance on subcontractors, to customize a surveillance plan, which FAA will then use to assess an air carrier's performance.

FAA implemented ATOS on October 1, 1998, at 10 major U.S. air carriers. FAA will complete an evaluation of this implementation by June 30, 1999.

Based on this evaluation FAA will develop a plan for full implementation at the remaining 143 air carriers.

However, planned FY 1999 budget cuts may impact FAA's ability to implement ATOS. The Office of Regulation and Certification must absorb total budget cuts of \$30.7 million in operations funds. The resulting hiring freeze on non-safety positions will prevent the hiring of data analysts to identify safety trends, the heart of ATOS. Other items included in these planned budget cuts with the potential to impact ATOS, either directly or indirectly, are contracts (\$8.2 million), training (\$7.5 million), and travel (\$3.4 million).

We have initiated a review of the DOT and FAA authorities and responsibilities for international aviation safety under code-sharing alliances. The rapid increase in the number of code-sharing agreements between U.S. and foreign air carriers, and the movement toward global alliances, highlights the need to review the Department's role in safety oversight of foreign air carriers. Code-sharing has been primarily viewed by FAA, the Department and the industry as an economic issue; however, we believe the safety implications of such agreements need to be explored. From 1994 to 1998, the number of airline code-sharing alliances has more than doubled, from 61 to 163. Airlines throughout the world continue to form alliances to strengthen or expand their market presence or competitive ability.

OPPORTUNITIES TO ENHANCE SAFETY SURVEILLANCE

The air tour industry and the quality of aircraft parts are two areas where FAA can continue to enhance its safety surveillance and be more proactive.

- ***Air Tour*** - Air tour operators provide commercial sightseeing flights to an estimated 2 million passengers annually. Unlike oversight for larger aircraft transporting passengers, an exception in FAA's regulations allows approximately 1,670 of the estimated 2,100 air tour providers to operate under less demanding safety and oversight requirements than other commercial operators who carry paying passengers. For example, in the more stringent commercial passenger air carrier regulations, a single pilot could not fly more than 8 hours in any consecutive 24-hour period. Also, FAA normally inspects these small air tour operators only when a problem or an accident occurs.

The inherent nature of air tour operations can create hazardous conditions. For example, air tours usually operate at relatively low altitudes in close proximity to water, ground obstructions and at varied distances from the ground. Air

tours are not normally monitored or guided by air traffic control and usually fly in congested, limited geographic areas.

As a result of a series of accidents, and the urging of the National Transportation Safety Board (NTSB), FAA strengthened its regulatory and surveillance efforts in the Grand Canyon and Hawaii with special regulations issued in 1988 and 1994, respectively. Accidents in those locations decreased dramatically. For example, in the 3 years before FAA implemented the special regulations, there were 24 accidents in Hawaii. Since the special regulations were implemented in Hawaii, there have been three accidents in Hawaii, and there have been no accidents in the Grand Canyon's regulated area. FAA needs to complete publication of a rulemaking that would extend more stringent safety and FAA oversight requirements to air tour operators nationwide.

FAA does not currently have sufficient information on air tour operations to focus its oversight efforts. FAA needs to know who and where the air tour operators are and the number of hours they are flying to help assess the safety of air tour operations. A database that would provide the needed information was to be established by the Office of the Secretary of Transportation, but it has been delayed 3 years waiting for a definition of "air tour" in FAA rulemaking.

While FAA and the Department need to expedite the proposed rule and the database, FAA can use existing requirements to improve oversight of air tours nationwide and to begin compiling a database on air tour operations.

- **Aircraft Parts** – Suspected unapproved aircraft parts (SUP) represent about 14 percent of our investigative caseload. While SUPs continue to be a problem, we have seen improvements in FAA's oversight. During the past several years, FAA has taken positive steps to combat unapproved parts issues and improved the working relationship with the OIG and other law enforcement agencies. One of the most notable items is the unapproved parts training program for its safety workforce. To date, approximately 1,850 safety inspectors have received the training. The FAA also provides technical assistance and support to law enforcement agencies investigating unapproved parts issues and participates in quarterly meetings with law enforcement to enhance the relationship.

Since 1993, FAA has received 1,778 reports of SUPs and initiated 298 enforcement actions against certificate holders for violating Federal Aviation Regulations concerning unapproved parts. FAA has also issued 143 safety notices on unapproved parts to the aviation industry.

To combat the SUP problem, we work with FAA and other law enforcement agencies. In late 1997, an inter-agency Law Enforcement/FAA Working Group⁶ on unapproved aircraft parts was formed to implement a coordinated national strategy for investigation and prosecution. Additionally, we have developed an extensive suspected unapproved parts investigative and training program.

Since January 1, 1993, in cooperation with the Department of Justice and U.S. Attorney offices nationwide, we have had 201 criminal indictments of individuals and corporations related to particularly egregious SUP cases, with a conviction rate of 98 percent. Results of these cases are shown in the following table.

**Total Judicial Results of SUP Criminal Prosecutions
Since January 1, 1993**

Jail time received by individuals	143 years
Probation time received by individuals and corporations	362 years
Criminal fines	\$14.3 Million
Restitution	\$12.3 Million
Recoveries	\$35.7 Million

(as of 2/1/99)

Our recent work indicates that quality control over the manufacturing of threaded aviation fasteners and components (screws, nuts, and bolts with threads and threaded products, such as engine drive shafts) may need to be strengthened. In 1998, at the request of the NTSB Chairman, we completed a review of the potential effects on the commercial aviation industry of the inactivation of military specification MIL-S-8879C. This military specification applies to the testing standards for dimensional conformance of threaded fasteners and components used in high stress aircraft systems. Industry experts we consulted agreed that inactivation of the subject military specification could cause some manufacturers to use a less stringent testing

⁶ The members of the group include the DOT/OIG, Federal Bureau of Investigation, Defense Criminal Investigative Service, U.S. Air Force-Office of Special Investigations, Naval Criminal Investigative Service, U.S. Customs Service, National Aeronautics and Space Administration, and the FAA Unapproved Parts Program Office.

specification. We recommended⁷ and on February 26, 1999, FAA issued an advisory circular to the aviation industry informing the industry of the need to comply with FAA-approved manufacturing specifications.

In August 1998, we also participated in a test of flight critical parts in the inventory of the U.S. Coast Guard at its Aircraft Repair and Supply Center. Our tests disclosed that of 23 different types of threaded fasteners tested, 18 of 23 had failure rates of 10 percent or more. The majority of the fasteners that failed testing were purchased through the Department of Defense supply system. Manufacturers of military fasteners usually produce commercial aviation parts as well. Currently, we are further investigating these failures with the U.S. Coast Guard.

We are continuing our efforts in the area of aviation fastener quality. Last year, the Fastener Quality Act was amended to exempt from the Act aviation fasteners that were already regulated by FAA. Because this legislation made FAA the sole authority over aviation fasteners used in the commercial aviation industry, and concerns had been raised to us about the quality of aviation fasteners, we initiated an audit of FAA's oversight of manufacturers' quality assurance systems for threaded fasteners and components. We will report on our results later this year.

Mr. Chairman this concludes our statement. I would be happy to answer any questions.

⁷ Aviation Industry Notification Regarding Testing Specifications for Threaded Fasteners and Components, Report Number AV-1998-177, July 17, 1998.