AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. HRG. 110–1126

OVERSIGHT OF FOREIGN AVIATION REPAIR STATIONS

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION OPERATIONS, SAFETY, AND SECURITY

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

JUNE 20, 2007

Printed for the use of the Committee on Commerce, Science, and Transportation

U.S. GOVERNMENT PRINTING OFFICE

74–105 PDF WASHINGTON : 2012

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

DANIEL K. INOUYE, Hawaii, *Chairman*

JOHN D. ROCKEFELLER IV, West Virginia
JOHN F. KERRY, Massachusetts
BYRON L. DORGAN, North Dakota
BARBARA BOXER, California
BILL NELSON, Florida
MARIA CANTWELL, Washington
FRANK R. LAUTENBERG, New Jersey
MARK PRYOR, Arkansas
THOMAS R. CARPER, Delaware
CLAIRE McCASKILL, Missouri
AMY KLOBUCHAR, Minnesota

TED STEVENS, Alaska, *Vice Chairman*
JOHN McCAIN, Arizona
TRENT LOTT, Mississippi
KAY BAILEY HUTCHISON, Texas
OLYMPIA J. SNOWE, Maine
GORDON H. SMITH, Oregon
JOHN ENSIGN, Nevada
JOHN E. SUNUNU, New Hampshire
JIM DeMINT, South Carolina
DAVID VITTER, Louisiana
JOHN THUNE, South Dakota

MARGARET L. CUMMISKY, *Democratic Staff Director and Chief Counsel*
LILA HARPER HELMS, *Democratic Deputy Staff Director and Policy Director*
CHRISTINE D. KURTH, *Republican Staff Director and General Counsel*
KENNETH R. NAHIGIAN, *Republican Deputy Staff Director and Chief Counsel*

SUBCOMMITTEE ON AVIATION OPERATIONS, SAFETY, AND SECURITY

JOHN D. ROCKEFELLER IV, West Virginia, *Chairman*
JOHN F. KERRY, Massachusetts
BYRON L. DORGAN, North Dakota
BARBARA BOXER, California
BILL NELSON, Florida
MARIA CANTWELL, Washington
FRANK R. LAUTENBERG, New Jersey
MARK PRYOR, Arkansas
THOMAS R. CARPER, Delaware
CLAIRE McCASKILL, Missouri
AMY KLOBUCHAR, Minnesota

TRENT LOTT, Mississippi, *Ranking*
JOHN McCAIN, Arizona
KAY BAILEY HUTCHISON, Texas
OLYMPIA J. SNOWE, Maine
GORDON H. SMITH, Oregon
JOHN ENSIGN, Nevada
JOHN E. SUNUNU, New Hampshire
JIM DeMINT, South Carolina
DAVID VITTER, Louisiana
JOHN THUNE, South Dakota

CONTENTS

	Page
Hearing held on June 20, 2007	1
Statement of Senator Dorgan	58
Statement of Senator Lautenberg	3
Statement of Senator Lott	53
Statement of Senator McCaskill	2
Statement of Senator Rockefeller	1

WITNESSES

Barimo, Basil J., Vice President, Operations and Safety, Air Transport Association of America, Inc.	36
Prepared statement	38
Brantley, Tom, President, Professional Airways Systems Specialists (PASS), AFL–CIO	46
Prepared statement	47
Filler, Marshall S., Managing Director and General Counsel, Aeronautical Repair Station Association (ARSA)	24
Prepared statement	26
Gilligan, Margaret, Deputy Associate Administrator for Aviation Safety, FAA	15
Prepared statement	17
Roach, Jr., Robert, General Vice President of Transportation, International Association of Machinists and Aerospace Workers	20
Prepared statement	22
Scovel III, Hon. Calvin L., Inspector General, U.S. Department of Transportation	5
Prepared statement	7

APPENDIX

Rockefeller IV, Hon. John D., U.S. Senator from West Virginia, prepared statement	75
Response to written questions submitted by Hon. John D. Rockefeller IV:	
Marshall S. Filler	77
Margaret Gilligan	76
Hon. Calvin L. Scovel III	75

OVERSIGHT OF FOREIGN AVIATION REPAIR STATIONS

WEDNESDAY, JUNE 20, 2007

U.S. SENATE,
SUBCOMMITTEE ON AVIATION OPERATIONS, SAFETY, AND SECURITY,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:36 p.m. in room SR–253, Russell Senate Office Building, Hon. John D. Rockefeller IV, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. JOHN D. ROCKEFELLER IV, U.S. SENATOR FROM WEST VIRGINIA

Senator ROCKEFELLER. My apologies. I've been in the Senate for a number of years and this is the first time I've ever been late for anything. I'm just sorry it had to be you.

This is an important oversight. Aviation safety is one of the Subcommittee's primary responsibilities and we, the Subcommittee, interestingly, there aren't that many that come. Claire McCaskill is one, John Thune is another, Trent Lott, and myself come, but aviation, as you know, is a very difficult subject and if you're not into the terminology and the weeds of that and with all the other things people have going on. I'm always a little bit embarrassed when we have a hearing on such an important manner, but Claire and I are here and that's—actually you got a pretty good deal on that.

The Government has absolutely no more important role in making sure that our Nation's aviation systems remain the safest in the world. I met with the former Prime Minister of Ireland this morning where we discussed this general subject in his new capacity. I want to thank Senator McCaskill for requesting this hearing, which she did. It was she that requested it and she is aggressively seeking to improve our Nation's aviation safety.

Now, I would like to thank our other witnesses for coming today, as well. That's all of you.

I have a few brief remarks and then we'll ask other Senators if they have opening statements and I know of at least one who will.

First, I want to state that I firmly believe that the United States has the safest and the best air system in the world. I say that in spite of the fact that we have an analog air traffic control system, which embarrasses me every single day of my life, since we're the only people in the industrialized world that have that. And we're trying to cure that in the bill, which we passed through Congress

with various people objecting for what I call wholly insufficient reasons.

I do not want to give anyone the impression that I believe it's unsafe to fly, but the aviation industry continues to change rapidly in light of unrelenting competitive pressures. I am concerned that the quickly changing nature of the commercial aviation industry, coupled with the FAA's declining level of resources, threatens the agency's ability to maintain the necessary level of oversight of air carriers' foreign repair stations and upgrade the existing safety infrastructure at our own airports. It's a massive problem. There have been huge layoffs because of budget cuts by the Administration.

Although I understand why many commercial airlines are contracting out an increasing amount of their maintenance work, I am concerned that this work is being sent to foreign countries where governmental oversight for both the home nation and the FAA may be weak or nonexistent. That is a much larger source of energy and concern than many of you will, at first, accept. You will accept this, you'll hear the statement, but you need to understand this is a, the profound concern of, not just this Committee, but generally in Congress.

Compounding the industry's trend to outsource much of the significant maintenance work, is the inability of the FAA to certify and closely monitor an ever increasing number of foreign repair stations. I do not question the Agency's commitment to safety. I believe that is due mainly to a lack of resources. I'm deeply concerned that the FAA is losing a number of its most senior safety inspectors and does not have the ability to replace them.

This Committee, as it begins evaluating the future of the FAA, should be spending a considerable amount of its time making sure that the agency is able to meet its foremost mission, which is the safety of the traveling public.

Again, I want to thank Senator McCaskill for her leadership on this issue and I call on her for any statements that she may wish to make.

STATEMENT OF HON. CLAIRE MCCASKILL, U.S. SENATOR FROM MISSOURI

Senator MCCASKILL. Thank you, Mr. Chairman. And, I want to thank you for calling this hearing. I think it is incredibly important. I think if the American people understood some of the safety and security issues surrounding foreign repair stations, they would march on Washington with pitchforks. I began down this road simply by reviewing a summary of the IG report, the FAA IG reports of both 2003 and 2005. And, as I began to pull that thread, I was surprised by what I learned and I hope today I will have the opportunity to ask some very, I hope, penetrating questions in four different areas.

First, on safety—if, in fact, qualified and certified inspection sites are important in the United States of America, then why aren't they important in other countries? We can not have a double standard. We can not decide that you have to get to a certain level in the United States, but not care about those safety levels in other countries. If drug and alcohol testing are important in the United

States of America, they should be important in every location where someone has access to the physical operation of an airplane.

In the security area—if background checks are important and perimeter security is important in some FAA-certified sites, they should be important in all sites. In June of 2007, the State Department put out its latest report on terrorism, excuse me, in June of 2006, this was released on April 30, 2007. The following countries where FAA-certified foreign repair stations are located, these countries are located as terrorist safe havens; the tri-border region of Argentina, Brazil, Columbia, Indonesia, and the Philippines. If we are allowing foreign repair stations to be located in nations that have been deemed safe havens for terrorists by our own State Department, then the standard should be very high in deed for security checks, background checks, and perimeter security.

The third area that I think we have to talk about today is accountability. If the Congress passes laws, including their most recent authorization act, and requires certain rules to be promulgated and certain action to be taken by FAA and TSA, then it is imperative that those rules be promulgated, it is imperative that those laws be followed. If we don't force accountability for the laws that Congress has already passed, then one could ask, what is the point of us being here to pass another FAA authorization act.

And finally funding—and it is forced because it is the least important. Safety and security are the most important, accountability of FAA and those people in the Homeland Security Department are incredibly important, but funding is also important. Should the taxpayers be funding any part, should we be subsidizing in any way the effort to inspect foreign repair stations? Is that fair to those companies who are not going to the lowest wage and are continuing to repair their airplanes and maintain their airplanes here in the United States of America.

Once again, Mr. Chairman, I thank you very much for holding this hearing and I look forward to hearing the testimony of the witnesses. I appreciate them all being here, as I know you do, and I look forward to having these questions answered.

Thank you.

Senator ROCKEFELLER. Thank you, Senator McCaskill.

Senator Lott, do you have—Co-Chair of this Subcommittee.

Senator LOTT. Well, thank you Mr. Chairman, glad to be here and appreciate you having a hearing so we can fully understand all the ramifications of this issue. I'd like to withhold any comments at this time so we can hear the testimony of the witnesses. And maybe I'll have some questions and some comments after that.

Thank you.

Senator ROCKEFELLER. That means you'll have a lot of questions.

[Laughter.]

Senator ROCKEFELLER. Senator Lautenberg.

STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

Senator LAUTENBERG. Thank you, Mr. Chairman. I just need a moment to get organized.

Senator ROCKEFELLER. Well, we're just going to sit here and look right at you and wait for you to be ready.

Senator LAUTENBERG. I respect that.

OK, thanks very much, Mr. Chairman, I congratulate our colleague from Missouri for her inquiry into the bill and examining the problems that we see, and as with other industries across the country work like this, being outsourced in the aviation industry.

Ten years ago, airlines outsourced 37 percent of their maintenance work according to the DOT's Inspector General. Today, they outsource 64 percent, it's quite incredible. The more repair work the airlines choose to send overseas, the less of that work gets inspected by FAA.

But in 2003, an Air Midwest plane crashed, killing 19 passengers and 2 crew members, and the NTSB investigated and found, specifically, that a lack of Federal oversight over maintenance had contributed to the accident.

Seven hundred and sixty million people will fly this year, and by the year 2015, the number's expected to hit 1 billion. And yet, while the number of passengers is increasing, the amount of maintenance work that the FAA inspects is decreasing. As of February, the FAA had only three more aviation safety staffers than it had 3 years ago. It doesn't sound like it's keeping up to date. And those inspectors used to travel primarily to staff facilities within the country, but now they've got to go to aviation repair facilities as far away as China, without additional resources.

So, I also want to mention my concern about the safety of the work done at repair stations not certified by the FAA. With the summer season travel upon us, long-term agenda in air travel trends shows no sign of slowing. This is not the time to take any extra risks with the safety of our aviation system. FAA needs to outline what, if any, work it will allow at these facilities, for the safety of our passengers and the viability of our economy, we need to know that our aircraft are being repaired responsibly, and those repairs are being overseen by the FAA.

Mr. Chairman, thanks very much for the opportunity to chat with you here.

Senator ROCKEFELLER. Thank you very much, Senator Lautenberg.

I'm going to introduce the panelists, and then we're going to do something a little bit different. Senator McCaskill, who has been the driving force behind this, is going to come sit here, and chair the hearing, and I will take her place, and stay and ask questions.

Our witnesses are Calvin Scovel, U.S. Department of Transportation Inspector General; Peggy Gilligan, Deputy Associate Administration for Aviation Safety, FAA; Robert Roach, General Vice President, International Association of Machinists and Aerospace Workers; Marshall Filler, Managing Director and General Counsel, Aeronautical Repair Station Association; Basil Barimo who is Vice President of Operations and Safety, Air Transport Association (ATA); and Tom Brantley, President, Professional Airway Systems Specialists (PASS). So, just hold for 1 second.

Senator LOTT. Are we going to have the testimony of the witnesses now, beginning with Mr. Scovel, I guess across the table?

Senator MCCASKILL. Please, go ahead, thank you.

STATEMENT OF HON. CALVIN L. SCOVEL III, INSPECTOR GENERAL, U.S. DEPARTMENT OF TRANSPORTATION

Mr. SCOVEL. Mr. Chairman, Madame Chairman, members of the Subcommittee, we appreciate the opportunity to testify on FAA's oversight of foreign repair stations and facilities.

Air carriers have outsourced, or contracted out, maintenance for years to both domestic and foreign repair stations. However, in recent years, use of external repair facilities has become more prevalent in the industry.

From 1996 to 2006, air carriers increased the percentage of maintenance dollars spent on outsourced maintenance from 37 percent to 64 percent. In 2006, $3.7 billion of the $5.7 billion spent on maintenance was outsourced.

Neither FAA nor the Department maintain information on how much maintenance air carriers outsource to foreign facilities, but our work shows that the number of foreign, FAA-certificated repair stations repairing U.S. aircraft has increased from 344 in 1994 to 698 in 2007.

As we have emphasized in the past, however, the issue is not where maintenance is performed, it is that maintenance requires effective oversight.

We see three areas that are key in FAA's efforts to effectively oversee outsourced air carrier maintenance, including maintenance performed by foreign repair stations and facilities. First, FAA must strengthen its risk-based systems for safety oversight. During the past 8 years, FAA has taken important steps to move its safety oversight for air carriers and repair stations to risk-based systems. FAA's new oversight system applies to both domestic and foreign repair stations. It is designed to help FAA inspectors focus their outsourced maintenance oversight on areas that pose the greatest safety risks. Risk-based oversight should significantly enhance FAA's ability to focus its inspections. However, we have identified a number of concerns that FAA must address.

In July 2003, we reported that FAA oversight had not shifted to where the maintenance was actually being performed. Instead, inspectors continued to focus inspections on in-house air carrier maintenance. We also reported, that at that time, 138 repair stations in Germany, France, and Ireland were not inspected by FAA at all. Under bilateral agreements with the aviation authorities of these countries, FAA permitted foreign authorities to inspect FAA-certificated repair stations on its behalf.

Since our 2003 report, FAA officials have worked closely with the aviation authorities of other countries, to improve the surveillance they perform on FAA's behalf. We are concerned that FAA is still not regularly visiting the facilities and the countries where agreements exist with other aviation authorities. For example, FAA international field office inspectors had not conducted any spot inspections of one major foreign engine repair station in 5 years between 2001 and 2006.

Recently, FAA has made significant progress in improving its repair station oversight. Since October 2005, inspectors have been required to review 15 areas within repair station operations to obtain a baseline assessment of each facility. Using this information, in-

spectors can focus their oversight on risk areas identified within the facility.

For the new oversight system to be successful, FAA needs to ensure that its inspectors receive the training they need to properly implement these new processes.

Second, FAA must know the location and type of maintenance that is being performed. In July of 2003 and December of 2005, we reported that FAA did not have good systems for determining which repair facilities air carriers were using to perform their most critical maintenance. Air carriers are required to provide—and FAA must approve—a list of repair stations that can conduct major repairs on air carriers' aircraft. However, the information that air carriers were providing did not always represent the facilities they actually used or show the quantity of work they sent to each facility.

This fiscal year, FAA developed new inspector guidance and air carrier processes to address this problem, but these efforts still fall short of providing FAA with the information it needs.

For example, air carriers do not include all repair stations that provide critical component repairs in their quarterly utilization reports. Also, FAA does not validate the information provided.

Further, in December 2005, we reported that FAA was not aware that non-certificated repair facilities were performing critical repairs for U.S. air carriers. Our review of 19 air carrier maintenance vendor lists showed that all 19 carriers used non-certificated repair facilities to some extent. We identified over 1,400 non-certificated repair facilities performing maintenance, and more than 100 of these facilities were located in foreign countries.

I see that I am almost out of time; if I may have, perhaps, another 2 minutes, I should be able to wrap up.

Senator MCCASKILL. Take the 2 minutes.

Mr. SCOVEL. Thank you.

Non-certificated facilities are not required to have the same quality controls and oversight systems that exist in FAA-certificated repair stations. Yet, there are no limitations on the scope of work they can perform. Further, FAA cannot rely on air carrier oversight programs for non-certificated repair facilities, because the carriers we visited did not provide adequate oversight of the work performed. FAA's efforts to improve its oversight in this area are still underway.

Third, FAA must ensure that its inspectors are well-positioned to adequately oversee maintenance outsourcing. FAA has approximately 3,821 inspectors located in offices around the world to oversee both domestic and foreign aspects of air carrier maintenance operations. However, FAA does not have a staffing model to determine the number of inspectors needed and where they should be placed.

FAA has hired an independent contractor to conduct a study to determine the most effective staffing mechanism, but completion of this process is likely years away.

The important implications of the changing U.S. and global aviation environment that we have discussed today are expected to be key drivers of future inspector staffing needs. Air carrier outsourcing of aircraft maintenance, FAA's shift to a systems safety over-

sight approach, and safety inspectors' attrition and retirement are all significant changes that must be considered in determining staffing needs. Until FAA develops an effective staffing model, it will not be able to determine where inspectors should be placed to make the most effective use of its resources.

This concludes my statement. I would be pleased to address any questions that you or other members of the Subcommittee may have.

[The prepared statement of Mr. Scovel follows:]

PREPARED STATEMENT OF HON. CALVIN L. SCOVEL III, INSPECTOR GENERAL, U.S. DEPARTMENT OF TRANSPORTATION

Mr. Chairman and members of the Subcommittee:

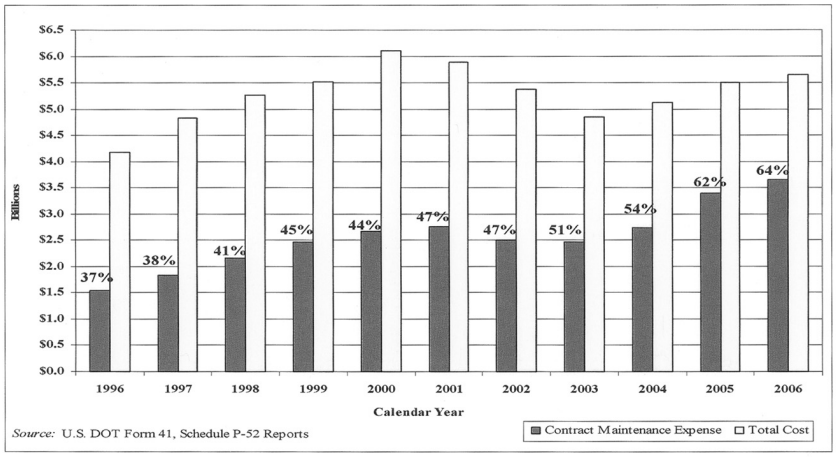
We appreciate the opportunity to testify on the Federal Aviation Administration's (FAA) oversight of foreign repair stations and facilities. Our testimony today is based on a number of our previous reports as well as our ongoing work. At the outset, it is important to note that while the United States has the most complex aviation system in the world, it is also the safest. Multiple layers of controls in air carrier operations and maintenance processes, along with FAA's oversight, are largely responsible for the high level of safety that we have seen in the last 5 years.

This safety record is a remarkable accomplishment given the many changes occurring within the industry. For example, air carriers continue to struggle for profitability and are aggressively working to cut costs by reducing in-house staff, renegotiating labor agreements, and increasing the use of external repair facilities—many of which are located in foreign countries.

Today's aviation environment continues to evolve. Since 2001, eight commercial air carriers have gone through bankruptcy and one has ceased operations. Fuel prices remain high, and this makes cost control a key factor in both the sustained profitability and overall survival of an airline. Personnel and aircraft maintenance are also significant cost areas within an air carrier's operations, and air carriers have been outsourcing, or contracting out, more maintenance to domestic and foreign repair stations to reduce these costs. Outsourcing maintenance is also a means for air carriers to accommodate the increasingly global nature of air travel. That is, having maintenance contracts with facilities around the world permits air carriers to readily obtain needed maintenance repairs and services.

Air carriers have outsourced maintenance for years to both domestic and foreign repair facilities. These facilities can complete repairs for less cost and provide services in areas (such as engine repair) that would otherwise require air carriers to have specialized equipment and staff. Many air carriers outsource their engine work to the original equipment manufacturers because of the level of expertise and the product warranties that the manufacturers can provide. However, in recent years, use of external repair facilities has become more prominent. From 1996 to 2006, while total maintenance costs fluctuated, air carriers continued to increase the percentage of maintenance dollars spent on outsourced maintenance—from 37 percent to 64 percent. In 2006, $3.7 billion of the $5.7 billion spent on maintenance was outsourced (see figure 1).

Figure 1. Percentage Increase in Outsourced (Contract) Maintenance Expense for Major Air Carriers[1] From 1996 to 2006



Neither FAA nor the Department maintain information on how much maintenance air carriers outsource to foreign facilities, but our work shows that the number of foreign FAA-certificated repair stations repairing U.S. aircraft has increased from 344 in 1994 to 698 in 2007. We have emphasized that the issue is not where maintenance is performed but that maintenance requires effective oversight.

However, we have identified challenges in FAA's ability to effectively monitor the increase in outsourcing. For example, in July 2003, we reported[2] that FAA had not shifted its oversight of aircraft maintenance to the locations where the maintenance was performed. Although air carriers were using external repair stations to perform more of their maintenance work, FAA was still focusing most of its inspections on the maintenance work that air carriers performed within their own facilities.

FAA has taken a number of steps to improve its oversight, and we will discuss some of those improvements today. However, the continuous growth in outsourcing underscores the need for FAA to remain vigilant in continually improving its oversight.

Today, I will begin by briefly discussing the regulatory differences between foreign and domestic repair stations. I will then move to two areas that we see as key in FAA's efforts to effectively oversee outsourced air carrier maintenance—including that performed by foreign repair stations and facilities.

- *Regulatory differences between domestic and foreign repair stations:* FAA-certificated maintenance facilities are referred to as repair stations. FAA has certificated (or licensed) 698 foreign repair stations to perform work on U.S. aircraft. The issuance of an FAA certificate means that FAA has determined that the facilities have the equipment, personnel, and inspection systems to ensure that repairs are completed according to FAA standards. Unlike U.S. repair stations, foreign repair stations must first demonstrate a need to obtain an FAA certificate—that is, the facility must show that it has potential customers with U.S.-registered aircraft. Also, foreign repair station certificates are only valid for a 1- to 2-year period.

  These requirements are more stringent than those mandated for domestic repair stations. However, foreign repair stations are currently exempt from some FAA requirements that domestic repair stations must meet. For example, FAA requires domestic repair stations to have drug and alcohol programs to periodically test employees performing maintenance but does not require foreign repair stations to perform drug and alcohol testing on their employees.

- *Strengthening safety oversight of repair stations and non-certificated repair facilities:* During the past 8 years, FAA has taken important steps to move its

[1] Alaska Airlines, America West Airlines, American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, Southwest Airlines, United Airlines, and US Airways.

[2] OIG Report Number AV–2003–047, "Review of Air Carriers' Use of Aircraft Repair Stations," July 8, 2003. OIG reports and testimonies can be found on our website: *www.oig.dot.gov*.

safety oversight for air carriers and repair stations to risk-based systems. FAA's new oversight system applies to both domestic and foreign repair stations. It is designed to help FAA inspectors focus their outsourced maintenance oversight on areas that pose the greatest safety risks. FAA is clearly on the right path; however, the risk-based systems are not yet at an end-state.

FAA cannot effectively implement a risk-based system for oversight of aircraft maintenance if it does not know where the maintenance is performed. In July 2003 and December 2005,[3] we reported that FAA did not have good systems for determining which repair facilities air carriers were using to perform their most critical maintenance. FAA has developed new inspector guidance and air carrier processes to address this problem, but these efforts still fall short of providing FAA with the information it needs. For example, FAA has developed a voluntary process for air carriers to report the top 10 critical maintenance providers used each quarter. However, as long as the process is voluntary, FAA cannot be assured that it is getting the accurate and timely information needed to determine where it should focus its inspections. Further, we reported that FAA was not aware that non-certificated repair facilities performed critical repairs for U.S. air carriers. Our review of 19 air carrier maintenance vendor lists showed that all 19 air carriers used non-certificated repair facilities to some extent. We identified over 1,400 non-certificated repair facilities performing maintenance, and more than 100 of these facilities were located in foreign countries. FAA's efforts to improve its oversight in this area are still underway.

- *Ensuring that inspectors are well-positioned to adequately oversee maintenance outsourcing:* FAA has approximately 3,821 inspectors located in offices throughout the United States and in other countries. FAA inspectors must oversee both domestic and foreign aspects of air carriers' maintenance operations—a task made more difficult by the rapidly changing aviation environment. The pace of these changes makes it imperative for FAA to maintain a sufficient number of inspectors to perform safety oversight and place them in the right locations.

  In the next 5 years, 51 percent of the current inspection workforce will be eligible to retire. However, this is only one of the challenges that FAA faces with its inspectors. For example, FAA does not have a staffing model to determine the number of inspectors needed and where they should be placed. Until FAA develops a staffing model, it will not be able to make the most effective use of its resources.

I would now like to discuss the changes occurring in the aviation industry, regulatory differences, and these two key areas in further detail.

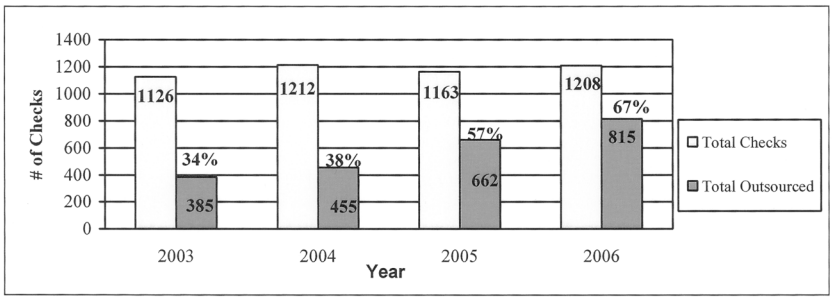
Recent Trends in Outsourcing

We are conducting a review of the type and quantity of maintenance that air carriers are outsourcing; we plan to report on this review later this year. We are finding that the amount, or quantity, of maintenance that air carriers outsource continues to climb. Further, the work that U.S. air carriers outsource includes everything from repairing critical components, such as landing gear and engine overhauls, to performing heavy airframe maintenance checks, which are a complete teardown and overhaul of aircraft. As shown in figure 2, nine major air carriers[4] we reviewed increased the percentage of heavy maintenance they outsourced to certificated repair stations from 34 percent in 2003 to 67 percent in 2006.

[3] OIG Report Number AV–2006–031, "Review of Air Carriers' Use of Non-Certificated Repair Facilities," December 15, 2005.

[4] The carriers represent a cross-section of nine of the largest network and low-cost air carriers and included: AirTran Airways, Alaska Airlines, America West Airlines, Continental Airlines, Delta Air Lines, JetBlue Airways, Northwest Airlines, Southwest Airlines, and United Airlines. Because American Airlines, the largest U.S. air carrier, has retained its heavy maintenance as opposed to making a significant shift to outsourcing, we did not include it in our review.

Figure 2. Percentage of Heavy Airframe Maintenance Checks Outsourced for Nine Major Air Carriers From 2003 to 2006

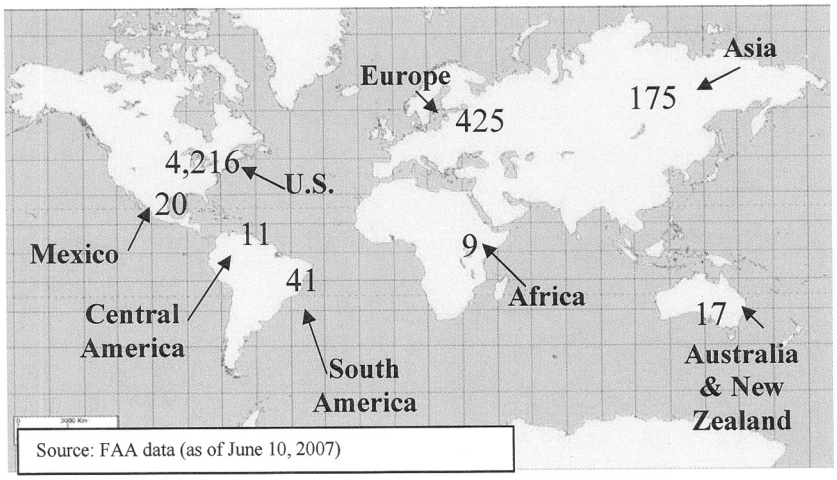


Source: Air carrier data

Of the heavy maintenance outsourced by the nine carriers in 2006, 35 percent was sent to foreign maintenance providers, up from 21 percent in 2003. The trend in outsourcing is significant and underscores the need for FAA to ensure that it has accurate information on where critical maintenance is performed so it can target its inspection resources.

Repair stations certificated by FAA are located worldwide, as shown in figure 3. There are currently 4,216 domestic and 698 foreign FAA-certificated repair stations available for use by U.S. air carriers.

Figure 3. Locations of FAA-Certificated Repair Stations



In addition, there are approximately 900 repair facilities in Canada that could be used by U.S. air carriers. Under a reciprocal agreement with the United States, Canadian officials certify and monitor operations at these facilities. FAA oversees work performed on U.S. aircraft. At least two major U.S. carriers use Canadian facilities to perform heavy airframe maintenance, and, as I will discuss later, air carriers also use domestic and other foreign non-certificated repair facilities to perform aircraft maintenance.

Regulatory Differences Between Domestic and Foreign Repair Stations

FAA has approved 698 repair stations in countries around the world to perform work on U.S. aircraft. While FAA verifies that the repair stations have the equipment, personnel, and inspection systems to ensure that repairs are completed according to FAA standards, the repair stations are under the regulatory control of a foreign governmental authority. As a result, there are some requirements that FAA does not impose on the facilities. For example, FAA does not require foreign repair stations to conduct background checks or drug and alcohol testing on their

employees. There are also other differences between foreign and domestic repair stations (see table 1).

Table 1. Regulatory Differences Between Domestic and Foreign Repair Stations

Regulatory Difference	Domestic FAA-Certificated Repair Stations	Foreign FAA-Certificated Repair Stations
Duration of FAA Certificate	Certificate lasts indefinitely	Certificate must be renewed every 1 to 2 years.
Fees for Certification	Do not pay FAA for certification	Pay FAA for certification and renewal costs.
Drug and Alcohol Testing Program	Required to have a program	Not required to have a program.
Certificated Mechanics	Certain personnel, such as return to service and supervisory personnel, must be FAA-certificated	Personnel are not required to be FAA-certificated. *(Note: Personnel must meet certain training and qualification requirements. Mechanics may be certificated by the aviation authority where they are located).*
Security Regulations	Repair stations on commercial airport property are subject to security requirements	Repair stations are not subject to U.S. security requirements.

Source: OIG

As table 1 demonstrates, foreign repair stations must comply with more stringent requirements, in some respects, than domestic repair stations to get and maintain their FAA certification. For example, foreign repair station applicants must show the need to obtain an FAA certificate. That is, applicants must be able to show that they have customers with U.S.-registered aircraft or customers with parts used on U.S.-registered aircraft. U.S. repair station applicants do not have to meet these criteria. Also, an FAA foreign repair station certificate is only valid for a 1- to 2-year period.

Foreign repair stations must pay for comprehensive annual or biannual FAA-required inspections in order to maintain, or renew, their certificate, whereas domestic repair stations can hold their certificates indefinitely. Conversely, in some areas, such as personnel requirements, domestic repair stations are held to more stringent provisions than their foreign counterparts. For example, U.S. repair stations must employ FAA-certificated mechanics to approve all repairs; foreign repair stations are not held to this requirement.

However, some foreign countries may have their own mechanic licensing requirements that are just as stringent as those required of FAA-certificated mechanics. For example, one country we visited requires its mechanics to be at least 21 years old and have a minimum of 48 months of aviation experience. Also, this country's mechanics are certificated for a specific size of aircraft. In contrast, FAA-certificated mechanics must be at least 18 years old and have a minimum of 30 months of aviation experience; also, they can work on aircraft of any size.

In 2003, we identified another difference between foreign and some domestic repair stations—repair stations located on commercial U.S. airport property must comply with U.S. security requirements. Repair stations located on foreign airport property in foreign countries are not subject to U.S. security requirements. The level and depth of security programs in other countries, including background checks, are subject to the government requirements in the country where the repair station operates.

To address security concerns at aircraft repair stations, Congress included a provision in the Federal Aviation Reauthorization Act (Vision 100),[5] which required the Transportation Security Administration, in consultation with FAA, to issue a final rule imposing security standards on foreign and domestic repair stations by August 2004. The rule has not yet been issued.

Strengthening Safety Oversight of Repair Stations and Non-Certificated Repair Facilities

FAA has strengthened its repair station oversight through implementation of a risk-based oversight system for both domestic and foreign repair stations. The sys-

[5] Vision 100—Century of Aviation Reauthorization Act, Pub. L. No. 108–176 (2003).

tem is designed for inspectors to use information obtained from data analysis to focus their oversight on areas with the greatest safety risks. In our view, a risk-based system is even more crucial to FAA's ability to maximize its inspection resources and travel budget given the increasingly global nature of the airline industry. Risk-based oversight should significantly enhance FAA's ability to focus its inspections; however, we have identified a number of concerns that FAA must address to continue advancing the program.

FAA Must Ensure That Its New Risk-Based Oversight System for Repair Stations Is Effective

In July 2003, we reported that FAA oversight had not shifted to where the maintenance was actually being performed. Instead, inspectors continued to focus inspections on in-house air carrier maintenance. For example, inspectors completed 400 inspections of in-house maintenance at 1 air carrier but only 7 inspections of repair stations. This occurred even though this carrier contracted out nearly half of its maintenance that year.

We also reported that 138 repair stations in Germany, France, and Ireland were not inspected by FAA at all. Under a bilateral agreement with the European Joint Aviation Authorities, FAA permitted foreign authorities to inspect FAA-certificated repair stations on its behalf to prevent duplicative inspections and reduce the financial burden on foreign repair stations. However, FAA did not have an adequate method to monitor the surveillance performed by other authorities. For example, most of the inspection files we reviewed that FAA received from the foreign authorities were either incomplete, written in a foreign language, or otherwise difficult to comprehend.

Since our 2003 report, FAA officials have worked closely with the aviation authorities of other countries to improve the surveillance they perform on FAA's behalf. For example, FAA is no longer limited in the number of inspections it can perform to verify the quality of foreign aviation authority inspections. However, we are concerned that FAA is still not regularly visiting the facilities in the countries where agreements exist with other aviation authorities. For example, FAA international field office inspectors had not conducted any spot inspections of one major foreign engine repair station in 5 years (2001–2006). In addition, FAA inspectors for 1 air carrier that used the repair station had not visited the facility within the same 5-year period, even though the repair station had performed maintenance on 39 (74 percent) of the 53 engines repaired for the air carrier.

In recent years, FAA has made significant progress in improving its repair station oversight. For example, under FAA's old inspection system for repair stations, inspectors were instructed to perform one inspection of each facility per year and could review any aspect of the repair station's operations. Inspectors were not required to provide detailed information on the areas they inspected or the issues identified. Since October 2005, inspectors have been required to review 15 areas within repair station operations to obtain a baseline assessment of each facility. Using the information from this assessment, inspectors can focus their oversight on risk areas identified within the facility. Further, the information generated from this oversight will be available for review by all FAA inspectors to assist them in targeting their inspections more effectively.

For the new oversight system to be successful, FAA needs to ensure that its inspectors receive the training they need to properly implement the new processes. FAA must also ensure that it has reliable processes for determining where maintenance is performed.

FAA Must Have Adequate Processes for Determining Where the Most Critical Maintenance Is Performed and How it Should Be Monitored

In 2003, we reported that FAA inspectors did not have effective procedures for determining which FAA-certificated repair stations air carriers were using to perform maintenance that could impact the airworthiness of their aircraft. In December 2005, we reported that FAA was unaware of air carriers' use of non-certificated repair facilities to perform critical maintenance.[6] These facilities are not covered under FAA's routine oversight program and do not have the same regulatory requirements as repair stations that obtain certification from FAA.

Air carriers are required to provide—and FAA must approve—a list of substantial maintenance providers, which are repair stations that can conduct major repairs on

[6] In our December 2005 report, we identified critical repairs as those repairs categorized as Required Inspection Items by each air carrier. Required Inspection Items are mandatory maintenance activities that, due to the importance to the overall airworthiness of the aircraft, must be independently inspected by a specially trained inspector after the work is completed.

the air carrier's aircraft. These procedures are designed to provide inspectors with information on where air carriers intend to send their substantial maintenance. However, the information that air carriers provided did not always represent the facilities they actually used or show the quantity of work they sent to each facility. For example, we identified one foreign repair station designated as a "substantial maintenance provider" for a major U.S. carrier even though it had not conducted any significant maintenance work for the air carrier in almost 3 years. FAA's surveillance should be better targeted to those repair facilities that air carriers use regularly.

FAA's new process for identifying certificated repair stations that air carriers use to perform maintenance is not effective. In response to our July 2003 report, FAA implemented a system in Fiscal Year 2007 for both air carriers and repair stations to submit quarterly utilization reports. These reports are supposed to show the quantity, or volume, of critical repairs that maintenance providers perform for air carriers and repair stations. However, submission of this information is not mandatory. FAA's Flight Standards staff advised us that a new rule would be required to make volume reporting mandatory and that they believed air carriers would provide the requested information voluntarily. Early indicators show that air carriers are submitting the reports. Our review of FAA records for nine air carriers showed that as of March 23, 2007, seven of the nine air carriers had submitted quarterly utilization reports for the quarter ending December 2006. FAA must ensure that air carriers file these reports in a timely manner.

Our primary concerns with the reports are that (1) air carriers do not include all repair stations that provide critical component repairs and (2) FAA does not validate the information provided. Air carriers are only requested to report the top 10 substantial maintenance providers used—the ones most frequently used per quarter. The reports do not have to include repair stations that perform high-volume, critical component repairs on parts such as wheels and brakes because FAA's definition of substantial maintenance does not include component repairs. Further, without some form of data verification, FAA cannot be assured that air carriers have provided accurate and complete information. If the reports are to be an effective means for FAA to track and accurately target those repair facilities that air carriers use the most, a more thorough process will be needed.

FAA needs to develop a mechanism to identify non-certificated repair facilities performing critical maintenance for air carriers. In December 2005, we reported that air carriers were using domestic and foreign repair facilities that were not certificated by FAA to perform critical and scheduled [7] aircraft maintenance. FAA was unaware of this practice. Air carriers have used non-certificated facilities for years, but it was widely believed that these facilities principally performed minor aircraft work on an as-needed basis. However, we determined that both domestic and foreign non-certificated facilities can and do perform the same type of work as FAA-certificated repair stations, including scheduled and critical maintenance. We examined records at three air carriers and identified 6 domestic and foreign facilities that performed scheduled maintenance and 21 that performed maintenance critical to the airworthiness of the aircraft.

We are especially concerned that air carriers rely on non-certificated facilities to perform scheduled maintenance tasks that the air carriers can plan for well in advance. For example, we identified an air carrier's use of a non-certificated facility to perform work on three aircraft that was required for compliance with an FAA Airworthiness Directive. Other critical repairs we found included adjustments to flight control systems and removal and replacement of an engine.

FAA does not know how many non-certificated maintenance facilities air carriers currently use because it does not maintain a list of the facilities. We sampled 19 air carriers, and all 19 were using non-certificated facilities to some extent. We identified over 1,400 non-certificated repair facilities performing maintenance, and more than 100 of these facilities were located in foreign countries, such as Aruba, Belize, Bermuda, Dominican Republic, El Salvador, Guatemala, Haiti, and Mexico. It is important to note that in many instances, air carriers contracted with facilities in these locations to ensure that they had a maintenance source in locations where there were no FAA-certificated repair stations available.

Nevertheless, permitting non-certificated facilities to perform critical maintenance is an important issue that FAA must address. To do so, FAA must first determine which non-certificated facilities perform critical and scheduled maintenance and then decide if it should limit the type of work these facilities can perform.

---

[7] This maintenance is required to be performed at regularly scheduled times, such as inspections required after the aircraft has flown a designated number of hours (*e.g.,* inspections of crew and passenger oxygen, aircraft fuselage, wings, and engines).

FAA Cannot Rely on Air Carrier Oversight Programs for Non-Certificated Repair Facilities

FAA permits air carriers to use domestic and foreign non-certificated facilities as long as the work is approved by an FAA-certificated mechanic. However, this is not an adequate substitute for an FAA-certificated repair facility because non-certificated facilities do not have the safeguards and controls for maintenance repair and oversight that is required at FAA-certificated facilities. Differences in FAA requirements for these two types of maintenance operations are illustrated in table 2.

Table 2. Differences in Requirements for FAA-Certificated Repair Stations and Non-Certificated Facilities

FAA Requirement	Certificated Repair Station	Non-Certificated Repair Facility
Annual FAA Inspections	Required	Not Required
Quality Control System	Required	Not Required
Report Failures, Malfunctions, and Defects	Required	Not Required
Designated Supervisors and Inspectors	Required	Not Required
Training Program	Required	Not Required
Facilities and Housing*	Required	Not Required

*If authorized to perform airframe repairs, certificated repair stations must have facilities large enough to house the aircraft they are authorized to repair.
Source: OIG analysis.

We found that air carrier quality systems under which these repairs were performed were not as effective as they should have been. This was particularly true in the areas of mechanic training and oversight of these facilities.

Non-certificated repair facilities are not required to employ designated supervisors and inspectors to monitor maintenance work as it is being performed. Relying solely on the expertise of an individual mechanic to ensure that repairs are completed properly is an inadequate control mechanism. In our view, this is the reason FAA requires added layers of oversight, such as designated supervisors and inspectors, in its certificated facilities.

In our December 2005 report, we stated that neither FAA nor the six air carriers we visited provided adequate oversight of the work performed at non-certificated repair facilities. The air carriers we reviewed relied primarily on telephone contact to monitor maintenance performed at these facilities rather than conducting on-site reviews of the actual maintenance work. In contrast, as an added level of quality control, air carriers often assign on-site representatives to monitor the work performed at certificated repair stations.

Despite the differences in quality controls and oversight that exist between certificated and non-certificated maintenance facilities, there are no limitations on the scope of work that non-certificated repair facilities can perform. For example, we looked at critical repairs performed under special authorizations at 1 air carrier and found that over a 3-year period, 14 of the 19 (74 percent) repairs were performed at non-certificated repair facilities. Examples of the work performed include landing gear checks, lightning strike inspections, and door slide replacements. In contrast, FAA-certificated repair stations are limited to completing only the specific maintenance tasks that FAA has determined the facility is capable of performing.

FAA agreed that it needs to place more emphasis on the oversight that air carriers provide to non-certificated facilities and that it needs to gather more information on the type of work these facilities perform. FAA's efforts in this area are still underway. If FAA is to achieve the planned improvements in oversight of outsourced maintenance, it will need to obtain definitive data on where air carriers are getting the maintenance performed, including critical and scheduled maintenance work done at non-certificated repair facilities, so that it can focus its inspections to areas of greatest risk.

Ensuring Inspectors Are Well-Positioned To Adequately Oversee Maintenance Outsourcing

In June 2005, we reported that FAA needed to ensure that its inspection workforce was adequately staffed. Currently, FAA has approximately 3,821 inspectors located in offices throughout the United States and other countries. FAA has assigned a portion of its inspector workforce to verify that foreign facilities used by U.S. air carriers continue to meet FAA standards. As shown in table 3, FAA has 86 International Field Office inspectors. Of these 86 inspectors, approximately 47 are located abroad (*i.e.,* Germany, England, and Singapore).

Table 3. FAA International Field Office Inspectors and Their Areas of Responsibility

International Field Office (IFO)	Number of Inspectors	Area of Responsibility	Number of Foreign Repair Stations
Dallas IFO	5	Mexico	20
Frankfurt IFO	26	Europe (excluding the United Kingdom), Africa, and the Middle East	300
London IFO	13	United Kingdom	162
Miami IFO	20	South America, Central America, and the Caribbean	52
San Francisco IFO	14	Australia, New Zealand, Japan, Korea, Philippines, Fiji, Taiwan, and other Asian-Pacific Island Nations	61
Singapore IFO	8	China, Hong Kong, India, Indonesia, Malaysia, Singapore, Thailand, and other Asian-Pacific Nations	103
TOTAL	86 Inspectors		698 Repair Stations

Source: FAA data (as of June 10, 2007).

FAA will never have enough inspectors to oversee every aspect of aviation operations. However, FAA faces challenges in balancing potential inspector retirements with the number of inspectors it is able to hire. This year, 27 percent (or 1,037 of the 3,821) of the current inspector workforce will be eligible to retire. By 2012, 51 percent of the workforce will be eligible to retire. To counter this trend, FAA requested funding to hire an additional 203 aviation safety inspectors in its Fiscal Year 2008 budget submission. In 2006, FAA hired 538 inspectors, but lost 226 (181 to retirements and 45 for other reasons). However, FAA will need to know where to place inspectors to make the most effective use of its resources.

FAA Needs a Process To Determine Inspector Placement

FAA does not have a process to determine the number of inspectors needed and where they should be placed. FAA has made at least two attempts to develop a staffing model to determine the appropriate number of and best locations for its inspectors. However, neither of the two models provided FAA with an effective approach to allocate inspector resources. During our review of FAA oversight of financially distressed and low-cost air carriers, we found inconsistencies in the way that FAA allocated inspectors among field offices. For example, two FAA offices had the same number of inspectors assigned to oversee the air carriers in their geographic areas even though one of those carriers had twice as many aircraft and 127 percent more flights than the other.

Until FAA develops an effective staffing model, it will not be able to determine where inspectors should be placed to make the most effective use of its resources. The important implications of the changing U.S. and global aviation environment that we have discussed today are expected to be key drivers of future inspector staffing needs. Air carriers' outsourcing of aircraft maintenance, FAA's shift to a system safety oversight approach, and safety inspectors' attrition and retirement are all significant changes that must be considered in determining staffing needs. FAA advised us that it has hired an independent contractor to conduct a study to determine the most effective staffing mechanism. However, completion of this process is likely years away.

Mr. Chairman, that concludes my statement. I would be pleased to address any questions that you or other members of the Subcommittee might have.

Senator MCCASKILL. Thank you, Inspector General Scovel.

Ms. Gilligan?

STATEMENT OF MARGARET GILLIGAN, DEPUTY ASSOCIATE ADMINISTRATOR FOR AVIATION SAFETY, FAA

Ms. GILLIGAN. Thank you, and I'm pleased to appear before the Committee today to discuss aviation safety, because the system has never been so safe, and so there can never be a better time for us to focus on how we can continue to build on that safety record.

While the focus for the Committee today is on the issue of aircraft maintenance, it is important to keep this issue in context. The truth is, in the recent past, we have suffered very few major accidents. That's because of concerted efforts by FAA and those involved in the aviation industry. We've been working through the commercial aviation safety team for the last decade, to establish safety requirements for things like new technology, training, and standard operating procedures. We've reduced the fatal accident rate significantly. The results speak for themselves.

In the 1940s, we had about 1,300 fatalities, for 100 million passengers and crew carried. By 1995, that number had dropped to about 47 fatalities. The average for the last 3 years has been about 4 fatalities per 100 million passengers and crew carried. That accident rate is not one of fate or luck. It is the achievement, and the result of a lot of hard work.

In fact, we compare ourselves to medicine, which also addresses public health and safety. Like medicine, we have virtually eliminated major causes of accidents. Just as dedicated physicians and researchers have eliminated smallpox and polio. This industry has virtually eliminated mid-air collisions, controlled flight into terrain accidents, and wind shear accidents. And I can assure you, we will not see those accidents as persistent, recurring accident types that they have been, historically.

In those cases, we used a layered approach to address the safety risk. That's the same layered approach that we take to aviation maintenance.

The first layer for establishing the safety of aircraft is in design and manufacture, and that we hold to the highest standards. We require designers to anticipate potential failures, and design safe solutions. We know that the people involved in the system—pilots and mechanics—will make mistakes. Our challenge is to anticipate those mistakes, and design for them. This makes the aircraft what we call "air tolerant," and this is true whether the aircraft is manufactured in the U.S., in Canada, in Europe or in Brazil.

Once the aircraft is introduced into service, we require a second layer of defense—an airline maintenance program. This includes identifying the facilities and equipment to perform the work, and training and detailed instructions for those who will do the work.

It is true, we don't require the airline to provide all of those elements itself—it can contract with other companies to provide some of those facilities, or to perform some of the work. But the work must always be done in accordance with the airlines' training and maintenance programs.

As we all know, there's a changing industry dynamic, as it relates to maintenance work. Airlines are contracting more often to have work done by third parties. Some airlines are developing their own areas of expertise, and performing contract maintenance in those areas for other airlines, and many are using providers all around the world.

But the airline is always responsible for the work performed, and for the decision to return the aircraft to service after determining that it's safe.

That's why our third layer is a requirement that the airlines have a continuing analysis and surveillance system. Simply put,

this is a regulatory requirement that ensures the airlines track every aircraft's performance, and identify any failures. It also allows the airline to identify when a repair may not have solved the root problem.

So, whether the airline maintains the aircraft, or uses contract workers, the airline is always monitoring the aircraft's performance, and evaluating the aircraft for its air worthiness.

And, the fourth layer is FAA oversight. For many years, we did inspections based on inspector experience, and well-educated gut reactions. And that worked fine for us, for a very long time.

But now we have automated tools that allow our inspectors to focus their attention in areas of risk. And we've integrated our databases in response to Inspector General recommendations, so inspectors assigned to an airline, and the inspectors assigned at the repair station that might be used by that airline, are sharing up-to-the-minute data. This makes both of those inspectors more productive.

All of these layers of requirements apply wherever the aircraft operates, and wherever the repair and maintenance work is done. And FAA inspectors share the same kinds of data, whether the inspector is in London, or in Lincoln, Nebraska, and whether the airline is using a repair station in Asia, or its own facility in Tulsa, Oklahoma.

We're always looking for ways to enhance the safety of the system, and hearings like this one provide us another opportunity to continue the dialogue among all of us who are dedicated to aviation safety, so that we can improve on our safety record.

I look forward to responding to any questions you may have this afternoon.

[The prepared statement of Ms. Gilligan follows:]

PREPARED STATEMENT OF MARGARET GILLIGAN, DEPUTY ASSOCIATE ADMINISTRATOR FOR AVIATION SAFETY, FAA

Chairman Rockefeller, Senator Lott, and members of the Subcommittee, I am pleased to appear before you to discuss the Federal Aviation Administration's (FAA) oversight of air carrier maintenance that is outsourced to foreign repair stations. (Just to be clear, outsourcing is any maintenance performed for an air carrier by any individuals who are not employed by the air carrier whether in the U.S. or abroad.) I know the industry trend to outsource more of its maintenance in recent years has been a concern for some of you. To some, outsourcing equates to cutting corners to save a few dollars. To some, less costly maintenance means less safe maintenance. To some, repair stations represent lesser quality maintenance. All these assumptions imply that safety is being compromised as more maintenance is outsourced. I am here today to reassure you that the quality of maintenance is not compromised simply because it is not being done by an air carrier. No less an authority than the former Department of Transportation Inspector General (IG), Ken Meade, testified before Congress that use of these stations is not a question of quality, but rather an issue of oversight. We agree, which is why the FAA is continually improving and refining our oversight of maintenance, no matter where it is performed or by whom.

Let me start by stating the obvious. The system is safe. As this subcommittee well knows, we have achieved the highest safety standards in the history of aviation. Even so, our goal is—as always—to continue to improve safety. I would like to share with you a chart that goes to the heart of this hearing. (See the attachment at the end of the statement.) The lines represent the percent of maintenance that is being outsourced and the accident rate, per hundred thousand operations. I think this picture is worth a thousand words. Although the percentage of outsourcing has never been higher, the accident rate has never been lower. These statistics amply dem-

onstrate that aviation safety is not dependent on airlines performing their own maintenance.

Before I explain the specifics of FAA's oversight of outsourced maintenance, let me take a moment to describe the office of aviation safety. Last year, after years of hard work, the Office of Aviation Safety (AVS) achieved ISO 9001 certification. This certification ensures that, worldwide, FAA safety offices provide standardized service and products, and that we adhere to the same safety standards as those businesses we regulate. We are the only Federal organization of our size, scope and complexity to have achieved ISO certification under a single quality management system. It was through my employees' dedication and hard work that we achieved ISO certification. Not one milestone was missed on our road to certification. So, our oversight of maintenance is part of an independently validated approach to holding ourselves to some pretty high standards.

Previously, our oversight was based largely on inspector knowledge and information that was available as the result of individual inspections. This approach was the best we could do at the time, but it was far from comprehensive. The effectiveness of our oversight could vary from facility to facility. What we are doing now is managing risk and requiring system safety. Just as we have worked the concept of system safety with the airlines, we are currently introducing the concept to repair stations.

Let me explain what I mean by system safety. System safety is extremely comprehensive. It sounds like a simple list of requirements, but in reality, it is a sophisticated approach to ensuring that everything is in place to obtain the information that can identify vulnerability in time to address it before safety is compromised. System safety requires the following attributes. It must be clear who is responsible for different aspects of the operation. The responsible person must have the authority to take necessary action. There must be procedures in place to execute required actions. There must be controls in place to ensure that a consistent product or service is being provided. There must be oversight/auditing procedures in place to independently evaluate the effectiveness and consistency of the operation. And last, there must be interface procedures in place to ensure that different parts of the organization are effectively talking to each other. Consistency is the goal. Inconsistency signals the need for a closer look and can provide us the early warning we need to get ahead of problems that could affect safety.

In addition, these attributes must be supported by a written Safety Policy expressing senior management's commitment to continually improve safety and includes safety risk management processes, safety assurances, and safety promotion. Safety risk management processes are used to assess system design and verify that safety risk management is integrated into all processes. Safety assurances continually identify new hazards and ensure risk controls achieve their intended objective. Safety promotion ensures an environment where action is taken to create a positive safety culture where people acknowledge their accountability and act on their own individual responsibility for safety.

This is what we will require of all organizations for which we have safety oversight responsibility, whether it be an airline, a manufacturer or a repair station. With these elements in place, our inspectors can perform hazard analyses and identify risk so that threats can be pre-empted. Instead of relying solely on information from individual inspections alone, we now perform a sophisticated analysis of anomalies identified and entered into the system. The analysis can provide us trend information that effectively targets our oversight. This is a much more comprehensive approach than what we were able to do previously. It allows us to get in front of potential problems in order to prevent them. This is not only a better use of FAA resources, it enhances safety.

The past few years have been about continuing forward and making adjustments to an already robust system. We have been working closely with the Department of Transportation Inspector General's (IG) office since their issuance in 2003 of the report "Review of Air Carriers' Use of Aircraft Repair Stations." The report identified specific areas where the IG felt improvements could be made. In response to the report, we made a number of changes to our oversight of repair stations. In 2004, we revised the regulations that apply to repair stations. The rule improved quality control requirements, equipment requirements, and provided more detailed requirements on the use by repair stations of external maintenance providers. In 2005, we issued guidance to enhance oversight of repair stations based on system safety requirements and risk assessment. In 2006, we developed and implemented software to further enhance oversight, risk assessment, and risk management processes used in our oversight. We've improved our Safety Performance Analysis System to provide sharing of information between the inspectors assigned to the repair

station, and those assigned to the air carrier. We've also improved the training requirements for certain repair station personnel.

We are currently testing a different way to oversee the work performed by complex repair stations. We call this approach the Certificate Management Unit (CMU) concept. CMU is a model of oversight for complex repair stations that parallels the way we conduct oversight of air carriers. CMU will provide for dedicated inspectors providing oversight at the assigned repair station. This addresses the criticism that FAA has failed to adapt its oversight of repair stations to reflect their increasing use by air carriers. Having assigned inspectors at these repair stations will further reduce the differences between the way we oversee major repair stations *versus* major airlines. We will continue to evaluate, modify and expand this concept as appropriate.

I mentioned at the outset that AVS is ISO certified. Part of what this means is that, as an organization, we must continually evaluate what we are doing to identify where we can improve. So I fully expect ongoing modifications to our oversight procedures and analyses as we learn more and develop new and better tools.

I would now like to turn my focus to foreign repair stations because I know they have been of particular interest to this subcommittee. As is the case with domestic repair stations, there is an incorrect perception that a carrier's use of a foreign repair station is somehow unsafe or done solely to reduce maintenance costs. I know there have been a number of efforts to restrict a U.S. carrier's ability to use foreign repair stations, but I do not believe these efforts would enhance safety. It is important to understand that FAA only certifies a foreign repair station if a U.S. carrier wants to use it. Unlike a domestic applicant, a foreign applicant must provide evidence that a U.S. operator or manufacturer needs its services. The repair station must meet the same standards that we apply to repair stations in the United States or we will not certify it. Safety is addressed because we require that all aircraft that are registered in the United States be maintained to U.S. standards, regardless of where they operate. Due to the global nature of aviation, we must have repair stations that meet U.S. standards throughout the world. It is an essential element of the U.S. being a leading provider of international transportation services. Finally, keep in mind that, as is the case when a carrier uses a domestic repair station, the carrier has the ultimate responsibility to ensure that the maintenance is being performed appropriately. All of this adds up to a great deal of supervision. The repair station has internal controls, foreign government oversight, airline oversight, and FAA oversight.

In three countries (France, Ireland and Germany) where we have Bilateral Aviation Safety Agreements (BASA), we have outlined Maintenance Implementation Procedures (MIP) to ensure that foreign inspectors are placing appropriate emphasis on the Federal Aviation Regulations when conducting review of work done on U.S. aircraft. We have a long history and experience with these aviation authorities. In these countries, we rely on the oversight of the aviation authority in addition to our periodic inspections. We are also working to ensure that these foreign aviation authorities inform us and seek FAA approval of changes to repair station operations if they directly impact FAA requirements.

In response to the IG, we have also made some changes to our oversight of foreign repair stations. For example, we eliminated the 10 percent sampling requirement on FAA's inspection of repair stations in countries where there is a BASA/MIP in place. In FY 2006, FAA conducted sampling inspections in 21 percent of the repair stations located in these countries. We have also developed and implemented policy and procedures in the BASA/MIP countries to capture the results from the inspections conducted by foreign authorities.

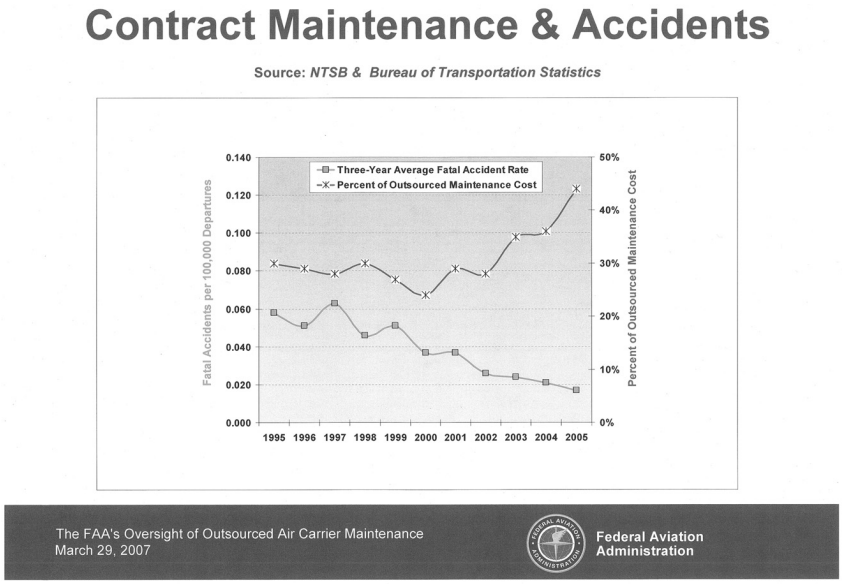
It is also important to remember that, by its nature, aviation is truly an international enterprise. An aircraft, especially in commercial aviation, contains parts manufactured all around the world. The original equipment manufactures (OEMs) have a wealth of expertise in repairing their products. In addition, their parts may have warranties. It would be extremely unwise to restrict a U.S. carrier's ability to use OEM maintenance, even if the OEM is abroad.

There are a number of other reasons for air carriers to choose to outsource some maintenance and repair activities. The expertise of OEMs is so considerable and their work is so consistent that maintenance is often outsourced to them, regardless of whether the maintenance being performed is on a part they manufactured. In other cases, overseas repair and maintenance facilities may provide a great deal of expertise for lower costs. Nevertheless, just as aviation safety is in no way compromised by allowing U.S. carriers to fly aircraft made in Europe, in Brazil, or in Canada, so too is safety in no way compromised by allowing other countries to conduct repair and maintenance on our aircraft.

I would like to conclude this morning by saying that our work with the IG's office in the past few years has been productive. We have made a number of adjustments that I think have improved the effectiveness of our oversight. That can only improve safety. I think we generally agree that we are moving in the right direction. Certainly, the chart I talked about reflects that airline use of repair stations has not compromised safety.

I understand and appreciate this subcommittee's concern about the increased use of foreign repair stations. Obviously, we share a common goal to find ways to improve safety at a historically safe period in U.S. aviation. I can assure you that my office is totally committed to making whatever adjustments the situation demands when it comes to safety oversight. Hearings like the one today continue a necessary dialogue. I do not claim to have all the answers. I think the changes we have made in recent years are good ones. But we can't sit still. There will always be ways to improve and we will continue to look for them.

This concludes my statement. I will be happy to answer your questions at this time.



Senator MCCASKILL. Thank you, Ms. Gilligan.

Mr. Roach?

STATEMENT OF ROBERT ROACH, JR., GENERAL VICE PRESIDENT OF TRANSPORTATION, INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS

Mr. ROACH. Thank you, Madame Chair, and members of this Committee, for the opportunity to speak to you today. My name is Robert Roach, Jr., I'm the General Vice President of Transportation for the Machinists Union.

I'm appearing on behalf of International President, R. Thomas Buffenbarger. The Machinists Union is the largest aviation union in North America, representing 180,000 airline and aerospace workers in almost every classification, including mechanics, flight attendants, ramp service workers, public contact employees and production workers.

Since 2003, nine major U.S. carriers have increased the amount of outsource work. The percentages, as mentioned by Senator Lau-

tenberg, are from 34 percent to 67 percent. The trend of U.S. airlines increasingly subcontracting work, aircraft maintenance work, jeopardizes safety, and security of our Nation's air transportation system. The lack of adequate Federal Aviation Administration oversight at certificated and non-certificated maintenance repair stations is unforgivable.

Airlines utilize overseas facilities to take advantage of low wages and lax regulations available at overseas repair stations, when there are many U.S. repair station facilities available and underutilized, such as the state-of-the-art facility in Indianapolis, Indiana, a facility abandoned by United Airlines.

Cutting back on food, pillows, or other in-flight amenities is a business decision that only inconvenienced the passengers, but cutting costs in aircraft maintenance has serious safety implications.

Our mechanics have found aircraft returning from overseas—overseas flight having departed with obvious mechanical problems. Our members have seen aircraft returned from repair facilities with flaps rigged improperly, engine fan blades installed backward, improperly connected ducting that resulted in pressurization problems, air speed indicator lines disconnected, inoperable thrust reversers, incorrect engine fuse pins installed, and over-wing exit emergency slides deactivated.

These aircraft have been deemed "airworthy" by repair stations. Although these mistakes were noticed, and catastrophic accidents avoided, that is not always the case.

FAA oversight of U.S. repair facilities is better than foreign repair stations, but is still not adequate. The NTSB faulted the FAA's lack of oversight of work being performed at an Air Midwest facility in West Virginia, as a contributing factor in the January 8, 2003 crash that killed 21 people.

There is still a dangerous shortage of FAA inspectors. The FAA's Singapore Field Office alone, is responsible for 103 stations, but has only four inspectors. An immediate increase of FAA inspectors, along with the resources they need—is necessary to safeguard the U.S. aviation industry.

When inspectors are permitted to make a rare inspection of oversight repair stations, they must still give advance notice. Unscheduled surprise inspections, like those performed in the United States, are necessary to ensure compliance.

Unlike U.S. air worker—United States workers—foreign maintenance persons are not required to undergo drug and alcohol testing, or pass criminal background checks, in fact, they're not even required to read English, which is the language in which aircraft manufacturers write their maintenance repair manuals. The FAA's oversight of certified repair stations is insufficient to ensure compliance and regulations.

FAA oversight of non-certificated repair stations, however, is nonexistent. Non-certificated facilities operate without the same regulatory requirements as certificated repair stations and operate with no limit on the type or scope of work they can perform. The FAA does not monitor the maintenance performed at non-certificated facilities, and the air carrier's training and oversight of these facilities is inadequate.

Hearings and investigations do nothing to increase safety unless it's followed with the action by both the FAA and the airlines who subcontract their maintenance work.

Having U.S. aircraft repaired overseas also opens up this country to great security risks. It's not hard to imagine how overseas repair stations working on U.S. aircraft could provide terrorists with the opportunity to sabotage an aircraft, or components that will eventually re-enter the United States for domestic service.

These stations should be immediately closed down so security audits can be conducted, and security vulnerabilities addressed. There should be one standard for safety and security, and FAA oversight at all aircraft facilities working on U.S. aircraft, regardless of where they are located. This must include the equivalent standards—criminal background checks, drug and alcohol testing of all workers, to tighten up security at the repair stations.

The FAA does not have sufficient funding to hire an adequate number of inspectors to ensure aviation safety at home or abroad.

Mr. Chairman—Madame Chair—Members of this Committee, let my testimony today serve as more than a warning that the oversight of contract maintenance of U.S. aircraft is almost non-existent. I am here to offer the assistance of the machinists union and all of our members who build and maintain aircraft to help safeguard our aviation industry.

I thank this Committee for inviting us to participate in these proceedings and listening to our concerns, I look forward to your questions.

[The prepared statement of Mr. Roach follows:]

PREPARED STATEMENT OF ROBERT ROACH, JR., GENERAL VICE PRESIDENT OF TRANSPORTATION, INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS

Thank you, Mr. Chairman, and Members of this Committee for the opportunity to speak to you today. My name is Robert Roach, Jr., General Vice President of Transportation for the International Association of Machinists and Aerospace Workers (IAM). I am appearing at the request of International President, R. Thomas Buffenbarger. The Machinists Union is the largest aviation union in North America, representing 180,000 airline and aerospace workers in almost every classification, including Mechanics, Flight Attendants, Ramp Service workers, Public Contact employees and production workers.

Since 2003, nine major U.S. carriers (AirTran Airways, Alaska Airlines, America West Airlines, Continental Airlines, Delta Airlines, JetBlue Airways, Northwest Airlines, Southwest Airlines, and United Airlines) have increased their amount of outsourced maintenance from 34 percent of total heavy aircraft maintenance checks to 67 percent.[1] The trend of U.S. airlines increasingly subcontracting aircraft maintenance work jeopardizes the safety and security of our Nation's air transportation system. The lack of adequate Federal Aviation Administration (FAA) oversight of certificated and non-certificated maintenance repair stations is unforgivable.

Many overseas repair stations exist only because U.S. airlines are constantly looking for ways to reduce their operating costs. Airlines utilize these facilities to take advantage of the low wages and lax regulations available at overseas repair stations when there are many U.S. repair facilities available and underutilized, such as the state-of-the-art Indianapolis, Indiana facility abandoned by United Airlines, one of the most advanced repair stations in the world. Cutting back on food, pillows and other in-flight amenities is a business decision that only inconveniences passengers, but cutting costs in aircraft maintenance has serious safety implications.

[1] Statement of the Honorable Calvin L. Scovel III, Inspector General of the U.S. Department of Transportation before the House Transportation and Infrastructure Committee Subcommittee on Aviation, March 29, 2007.

Our mechanics have found aircraft returning from overseas flights departed with obvious mechanical problems. When they tell FAA inspectors, the inspectors complain that their hands are tied. Budget constraints limit their ability to inspect overseas maintenance operations.

A recent example of poor work performed by a maintenance vendor occurred at US Airways. The FAA recently issued an Airworthiness Directive requiring the replacement of the fuse pins that mount engines to Boeing 767 aircraft. A maintenance contractor for US Airways performed the modification, but installed the wrong fuse pins on three aircraft. These pins are designed to allow an engine to drop from the wing during an emergency to prevent excessive vibrations from causing the entire wing to break away from the aircraft. Such a catastrophic event would force the plane into an uncontrolled spiral toward the Earth. Our members have also seen aircraft return from repair facilities with the flaps rigged improperly, engine fan blades installed backward, improperly connected ducting that resulted in pressurization problems, airspeed indicator lines disconnected, inoperable thrust reversers and over-wing exit emergency slides deactivated. These aircraft had all been deemed airworthy by the repair stations. Although these mistakes were noticed and catastrophic accidents avoided, that is not always the case.

FAA oversight of U.S. repair facilities is better than foreign repair stations, but still not adequate. On January 8, 2003, US Airways Express Flight 5481 crashed into a Charlotte, North Carolina hangar packed with IAM members, killing all 21 people onboard. The subsequent National Transportation Safety Board (NTSB) investigation faulted Air Midwest, which operated the aircraft, the facility that performed maintenance of the aircraft and the FAA.[2]

US Airways, then headquartered in Arlington, Virginia, sold the tickets to the flight and the aircraft displayed the carrier's logo. Air Midwest, based in Arizona, operated the flight and was responsible for the aircraft's maintenance. But Air Midwest subcontracted that maintenance to Raytheon Aerospace in Huntington, West Virginia, who then contracted with Structural Modification and Repair Technicians to supply the mechanic workforce.

The NTSB determined that a mechanic improperly adjusted cables that helped control the pitch of the aircraft. The mechanic had never done the job on that type of plane before and with his trainer's approval, skipped steps that the NTSB said would likely have helped the mechanic catch his mistakes. FAA regulations require such flight critical work to be inspected, but in this case it was inspected by the same instructor who allowed steps to be skipped.

NTSB Chairman Ellen Engleman Conners said at the time, "I think the entire system here was broken down. There were errors at every level."[3] Commenting on the airline's layers of subcontracted maintenance work, Aeronautical Repair Station Association Executive Director Sarah Macleod said, "The more removed you get from the maintenance, the more training it takes. The more tiers, the closer you'd better be looking."[4] The Machinists Union wholeheartedly agrees with both of these statements.

A July 2003 Department of Transportation (DOT) Inspector General Report highlighted the weak oversight of aircraft maintenance performed overseas by third-party contractors.[5] In response to that report, Congress directed the FAA to submit a plan by March 12, 2004 to ensure that foreign repair stations working on U.S. aircraft are subject to the same level of safety and oversight as required here at home.

Years past the deadline, the FAA finally submitted a plan that the Machinists Union believes is woefully inadequate. There is still a shortage of FAA inspectors, and when inspectors are permitted to make a rare inspection of an overseas repair station they must still give advance notice. Unscheduled surprise inspections, like those performed in the U.S. are necessary to ensure compliance. Unlike U.S. workers, foreign maintenance personnel are still not required to undergo drug and alcohol testing or pass criminal background checks. In fact, they are not even required to read English, which is the language in which aircraft manufactures write their maintenance repair manuals.

---

[2] NTSB Aircraft Accident Report, "Loss of Pitch Control During Takeoff," Air Midwest Flight 5481, Raytheon (Beechcraft) 2000D, N233Y, Charlotte, North Carolina, January 8, 2003, NTSB/AAR–04/01.

[3] Charlotte Observer, "NTSB faults FAA and airline in US Airways crash", February 26, 2004.

[4] Department of Energy Aviation Flight Safety Notice 03–002, "Subcontract Maintenance".

[5] DOT Inspector General Report, "Review of Air Carriers' Use of Aircraft Repair Stations", July 8, 2003 (AV–2003–047).

A December 2005 DOT Inspector General report[6] found that while foreign repair stations were widely used by U.S. carriers, some FAA certified foreign repair stations are not inspected at all by FAA inspectors because civil aviation authorities review these facilities on the FAA's behalf. Airlines are subcontracting their maintenance and the FAA is outsourcing their inspections. The Machinists Union believes this only degrades aviation safety and endangers the traveling public.

The FAA's oversight of certified repair stations is insufficient to ensure compliance with regulations. FAA oversight of non-certificated repair stations, however, is non-existent.

The Inspector General's 2005 report found that non-certificated facilities operate without the same regulatory requirements as certificated repair stations and operate with no limit on the type or scope of work they can perform. The report also verified that the FAA does not monitor the maintenance performed at non-certificated facilities and the air carriers' training and oversight of these facilities are inadequate. The report further revealed that the FAA did not know the extent of maintenance performed at non-certificated repair facilities.

The Machinists Union is thankful the Inspector General's office has repeatedly demonstrated the FAA's lack of oversight of contract maintenance facilities. However, hearings and investigations do nothing to increase safety unless it is followed with action by both the FAA and the airlines who subcontract their maintenance work.

Having U.S. aircraft repaired overseas also opens up this country to a great security risk. It is not hard to imagine how overseas repair stations working on U.S. aircraft could provide terrorists with an opportunity to sabotage an aircraft or components that will eventually re-enter the U.S. for domestic service. These stations should be immediately closed down until security audits can be conducted and security vulnerabilities addressed.

There should be one standard for safety, security and FAA oversight at all aircraft repair facilities working on U.S. aircraft, regardless of where they are located. This must include equivalent standards for criminal background checks, drug and alcohol testing of workers and tightening the security at repair facilities.

The FAA does not have sufficient funding to hire an adequate number of inspectors to ensure aviation maintenance safety, at home or abroad. Even the recent hiring of additional FAA inspectors does little to improve oversight. As of January 2007, there were only 103 international field inspectors for a total of 692 foreign repair stations.[7] The Singapore field office alone is responsible for 103 stations, but has only 4 inspectors. An immediate increase in FAA inspectors, along with the resources they need, is necessary to safeguard the U.S. aviation industry.

Mr. Chairman, Members of this Committee, let my testimony today serve as more than a warning that the oversight of contract maintenance on U.S. aircraft is almost non-existent. I am here to offer the assistance of the Machinists Union and all our members who build and maintain aircraft to help safeguard our aviation industry.

I thank the Committee for inviting us to participate in these proceedings and listening to our concerns.

I look forward to your questions.

Senator MCCASKILL. Thank you, Mr. Roach.

Mr. Filler?

STATEMENT OF MARSHALL S. FILLER, MANAGING DIRECTOR AND GENERAL COUNSEL, AERONAUTICAL REPAIR STATION ASSOCIATION (ARSA)

Mr. FILLER. Thank you, Madame Chairman, and good afternoon to Chairman Rockefeller and Senator Lautenberg as well.

My name is Marshall Filler, I'm Managing Director and General Counsel for the Aeronautical Repair Station Association. I'd like to assure this Committee that in order to be a regular member of ARSA, you have to hold a certificate, and most of our members

[6] Inspector General Report Air Carriers' Use of Non-Certificated Repair Facilities, December 15, 2005 (AV–2006–031).

[7] Statement of the Honorable Calvin L. Scovel III, Inspector General of the U.S. Department of Transportation before the House Transportation and Infrastructure Committee Subcommittee on Aviation, March 29, 2007.

hold that certificate, we do have about 1 percent that hold other kinds of authorities, and they're not voting members of ARSA.

Foreign repair stations are also members of ARSA, and they are an essential part of aviation, and of aviation safety. In fact, without them, there would be no international travel. I say that, because under international law, the State of Registry of the aircraft is responsible for controlling the maintenance performed on that aircraft, and on any component to be installed thereon, regardless of where the aircraft is. So, if an aircraft is traveling in Europe, if it's got an N in front of it, and it's registered in the United States, the work must be performed by an FAA-certificated facility, or other certificated person.

Although it is true that there are 700 repair stations located outside our borders, it is also true that 425 of them are in Europe. If you would compare the number of U.S.-based repair stations that are certificated by the European Aviation Safety Agency, it is almost 1,200. So, there are almost 3 times as many U.S.-based repair stations certificated to perform work under European jurisdiction as there are FAA-certificated to performed repairs in Europe.

Many of these 700 foreign repair stations are owned by U.S. companies, by Pratt & Whitney, General Electric, Hamilton Sundstrand, Honeywell, and Nordam to name a few, as well as some of the most well-respected international air carriers such as Qantas. Also among our members are Lufthansa Technik, as well as SR Technics. These are highly respected, worldwide acclaimed repair facilities.

When we talk about repair stations, I think it is important to distinguish the various types—we have line maintenance facilities that basically keep the aircraft flying during the day, and do simpler overnight checks. We have substantial maintenance providers where the aircraft is maintained for anywhere from a number of days, to weeks in a hanger-type facility, but most of the repair stations are actually component repair facilities, located miles from airports, presenting little security threats, located in places like industrial parks.

Most of the rules that apply to foreign repair stations by the FAA are the same. Some of those differences are, there's a very good reason for them, because of international considerations, in fact, with respect to drug and alcohol testing, the FAA did propose to make this mandatory overseas in 1994, but over significant protest from the international community, and I might add, our State Department withdrew that proposal in the year 2000.

FAA has chosen, instead, to work through ICAO, the international body, which has adopted drug and alcohol testing as a recommended practice. ICAO also has an international standard that prohibits anybody from performing a safety-sensitive function under the influence of a controlled substance.

Some of the requirements of foreign repair stations are actually greater than they are domestically, such as the certificate that lasts only a year or two. In the domestic situation, once you get certificated, you keep it forever. In a foreign situation, the FAA has to conduct a re-inspection every 12 to 24 months.

With respect to security, I think it is important for members to know that ICAO also plays a very significant role in security per-

formed in international locations. ICAO Annex 17 provides for international security standards, that include a national security program, airport-specific programs for all airports serving international airlines, air operator security programs, background checks, perimeter security. All 189 members of ICAO are required to follow these standards, or otherwise notify ICAO that they are not. So, while it is true that they are not subject to U.S. requirements, they are subject to ICAO requirements, and in fact, our TSA rules are very similar to the ICAO standards because—like all of the rest of the countries that are members of ICAO, we have to comply with those standards, as well. I think there's a danger here if you direct security resources at places where the threat is less.

Madame Chair, I have two more minutes?

Senator MCCASKILL. Yes.

Mr. FILLER. Thank you very much.

If the—historically, background checks have been required when people need unescorted access to restricted security areas of the airport—that's where the threat is greatest. If we re-direct those resources to places where—that are 20, 25 miles from an airport, that work on components that are tested and inspected before they leave the repair station, once again, functionally checked by the air carrier prior to installation, we are going to take resources away from the places where we think they're needed more.

A couple of other things I would like to mention. We disagree with the notion that airlines will always go to the lowest cost maintenance provider. And the reason we disagree with that, is that if that maintenance is performed poorly, with a lack of reliability, that airplane will not move. FAA regulations require maintenance discrepancies to be addressed, or appropriately deferred. And, indeed, if work is performed in a shoddy fashion, and the maintenance discrepancy is written up, the cost of that flight delay or flight cancellation will far outweigh any savings that might accrue because of the use of, for example, lower paid workers.

We also disagree with the notion that the FAA is responsible for ensuring safety. FAA regulations set up a structure in which safety can flourish. We, the certificate holders, are responsible for ensuring safety. Safety is good business, as demonstrated by the accident record that Ms. Gilligan mentioned. We don't believe foreign repair stations take U.S. jobs, we think only, you have to look at the situation between the U.S. repair stations and the European repair stations to know that, I think we actually get the benefit of that bargain—with 1,200 in Europe, rather, 1200 U.S. repair stations that are certificated by EASA.

We also don't think, well, I think I've used my 2 minutes, Madame Chair, so I think that I will not ask for any more time, but I do appreciate your indulgence. Thank you.

[The prepared statement of Mr. Filler follows:]

PREPARED STATEMENT OF MARSHALL S. FILLER, MANAGING DIRECTOR AND GENERAL COUNSEL, AERONAUTICAL REPAIR STATION ASSOCIATION (ARSA)

Chairman Rockefeller, Ranking Member Lott, and members of the Subcommittee, thank you for inviting me to testify this afternoon about the role of foreign repair stations, and the safety of aviation maintenance.

My name is Marshall Filler and I am the Managing Director and General Counsel of the Aeronautical Repair Station Association (ARSA). ARSA is a 670 member

strong international trade association with a distinguished 22-year record of educating and representing certificated aviation maintenance facilities before the U.S. Congress, the Federal Aviation Administration (FAA), the European Aviation Safety Agency (EASA), and other national aviation authorities (NAA).

ARSA's primary members are companies holding repair station certificates issued by the FAA under part 145 of the Federal Aviation Regulations (FARs). These certificates are our industry's "license to do business." They authorize repair stations to perform maintenance and alterations on civil aviation articles, including aircraft, engines, and propellers, and on components installed on these products. These repair stations perform maintenance for airlines and general aviation owners and operators.

In recent years, the profile of the contract maintenance industry has increased dramatically. With over 4,000 repair stations in the United States employing almost 200,000 people (Appendix A), this sector of the aviation industry continues to grow. We welcome the opportunity to discuss the important role our members play in the aviation industry here and abroad and to correct any misconceptions about the safety of maintenance performed by foreign repair stations.

Foreign Repair Stations Are an Essential Part of Aviation

Foreign repair stations are a necessary part of the international aviation system. Any effort to restrict the use or number of such facilities would likely lead to retaliatory trade actions by other countries. Ultimately, U.S. aerospace manufacturers, air carriers and the flying public would be harmed.

The Chicago Convention of 1944 and International Civil Aviation Organization (ICAO) standards require that the State of Registry (*i.e.,* the country in which an aircraft is registered) oversee the maintenance performed on that aircraft and related components, regardless of where the work is performed.[1] Consequently, a U.S. registered aircraft requiring maintenance while outside of the U.S. *must* have that work performed by an FAA-certificated maintenance provider. Indeed, a foreign applicant for a repair station certificate must also demonstrate to the FAA that its services are needed to perform work on articles subject to FAA jurisdiction.

Similarly, when an aircraft of foreign registry requires maintenance while in the U.S., only a repair station certificated or validated by the relevant NAA may perform the work. For example, only an EASA-certificated repair station may perform maintenance on an aircraft of French registry within the U.S.

This legal regime has proven beneficial to American repair stations. Currently, there are 698 FAA-certificated repair stations outside the U.S. (see Appendix B). At the same time, there are close to 1,200 EASA-certificated repair stations in the U.S., and numerous other NAA-certificated repair stations inside our borders.[2] Our aviation maintenance industry is highly-regarded worldwide.

Foreign Repair Stations Must Follow Strict Standards and Procedures

Bilateral agreements are negotiated between two regulatory authorities to facilitate the airworthiness certification of new and used products imported and exported from the affected countries. The agreements are not a "one size fits all" proposition; they must be tailored to the specific oversight systems and capabilities of the respective authorities.

Such agreements are only concluded after a lengthy evaluation process that assures that the two regulatory oversight systems are technically equivalent. In most cases, they are based on reciprocity. Bilateral agreements also eliminate redundant technical determinations that are not necessary in the interests of safety. Consequently, they allow the two authorities to more efficiently allocate their limited oversight resources. The FAA currently has about 30 bilateral agreements covering design, production and airworthiness approvals, primarily for new products.

It is interesting to note that many more bilateral agreements apply to the airworthiness certification of mostly new products than to articles that have been maintained or altered. In relatively few cases, however, Maintenance Implementation Procedures (MIPs) have also been negotiated. Currently, there are MIPs in place with France, Germany and Ireland (soon to be expanded to other members of the European Union) and Canada. The MIPs set forth mutually acceptable procedures that apply whenever maintenance or alterations are performed on equipment under the jurisdiction of either authority. They also provide a means by which the authorities can cooperate in conducting surveillance and sharing the results of those findings.

---

[1] *See,* ICAO Annex 8, Airworthiness, § 4.2.1(b).

[2] Data obtained on European Safety Agency (EASA) website, for "Foreign EASA Part-145 Valid Approvals for Organisations Located in the United States" June 1, 2007.

Except for Canada, facilities located in MIP countries receive an FAA repair station certificate. They are required to follow the rules of their home country and the designated FAA special conditions. The special conditions are areas where the two authorities' regulations are different and therefore must be followed when work is performed on articles subject to the other's jurisdiction.

A list of countries in which FAA foreign repair stations are located, whether these countries meet ICAO standards, and the status of bilateral agreements with the U.S. is found in Appendix C.

FAA-Certificated Repair Facilities Located Abroad Are Not a Threat to the U.S. Economy Or To Aviation Safety

FAA-certified repair stations located oversees must meet the same or equivalent safety standards as domestic facilities. Unlike their domestic counterparts, however, foreign repair stations must renew their certificate with the FAA annually or, at the discretion of the FAA, biannually, following a safety inspection. This ensures that the FAA evaluates the housing, facilities, equipment, personnel, and data of each repair station located outside the U.S. at least once every 2 years.

In 2005, ARSA conducted a member survey, (see Appendix D) which revealed that the average FAA-certificated foreign repair station is audited more than 74 times each year by government regulators, customers, other third-parties, and the repair station's own quality assurance personnel, suggesting a high-level of combined oversight.

Recent attempts at restricting the use of foreign repair stations, and specifically removing the FAA Administrator's ability to issue new certificates, would be highly detrimental. Many companies factor into their business plan the ability to open a new foreign repair station, and much time and effort goes into the application and certification process.

Indeed, many U.S. companies have repair stations internationally. The FAA's list of foreign repair stations reveal that there are approximately 80 foreign repair facilities owned by U.S. aerospace companies, including Nordam, Pratt & Whitney, Hamilton Sundstrand and Honeywell.[3] Additionally, international companies have repair stations located within our borders, such as Lufthansa Technik, Dassault, and BAE systems.

The aviation maintenance industry is a global enterprise; thus, action taken domestically affects companies worldwide. A restriction on the use of foreign repair stations only punishes American companies, making them less profitable and competitive.

Although the Location of Work May Differ, Quality Does Not

To operate in the civil aviation maintenance industry, certificated repair stations must demonstrate to the FAA, or other NAAs if applicable, that they possess the housing, facilities, equipment, trained personnel, technical data, and quality systems necessary to perform maintenance in an airworthy manner. Based upon satisfactory showings in these areas, a repair station is rated to perform certain types of maintenance.

However, not all repair stations look alike and their capabilities vary significantly. Some provide line maintenance—the routine, day-to-day work necessary to keep an airline's fleet operating safely. Some perform substantial maintenance, which includes more comprehensive inspection and repairs on airframes and overhauls of aircraft engines. Others offer specialized services for their customers such as welding, heat treating, and coating on a variety of aircraft parts. However, the vast majority of repair stations perform maintenance on components. Component maintenance usually occurs off the aircraft, typically away from an airport in industrial parks and similar facilities.

Regardless of the location of the repair facility, the regulatory requirements are the same. Each item goes through a series of checks required by FAA regulation, before being placed on an aircraft.

Despite Limited FAA Resources, The Industry Ensures Safety

Aviation safety does not begin and end with the FAA or any other regulatory body. Government inspectors will never be able to oversee each technician at every facility all the time. The industry has the ultimate obligation to ensure that the civil aviation system is safe. All evidence suggests that it is fulfilling that responsibility despite the FAA's limited oversight resources.

In reports published in 2003 and 2005, the Office of the Inspector General of the Department of Transportation (DOT IG) expressed concerns about the FAA's over-

[3] Based on FAA Listing of Foreign Repair stations from Air Agency Data, June 10, 2007.

sight of the contract maintenance industry stating that the agency's oversight is currently insufficient for the amount of work independent repair stations perform for airlines.[4] The FAA has responded to these findings by introducing a risk-based inspection program that identifies those repair stations doing the most work for airlines and monitoring their operations more closely. ARSA has continuously supported efforts to better utilize FAA resources to ensure the continued quality of contract maintenance here and abroad, and to demonstrate to policymakers and the public that our aviation system remains safe.

We also note that despite the IG's observations, repair stations are subject to a tremendous amount of oversight by regulators, their customers, and other entities as shown in the 2005 ARSA member survey referenced above (Appendix D). A more recent membership survey conducted in March 2007 is summarized in Appendix E. The findings from this survey reaffirmed past survey results, including:

- 42 percent of members surveyed reported 11 or more external audits during 2006 by regulators, customers, and third-party accreditation bodies.
- FAA resource issues are having an impact. A quarter of survey respondents reported losing customers or foregoing business opportunities because of inadequate FAA staffing.

Thus, safety is not just the FAA's responsibility, but that of every aviation maintenance employee performing work on behalf of a certificated repair station, air carrier or other aviation business. It is the FAA's role to ensure that repair stations have the procedures in place to ensure the quality of the work performed and to ensure that procedures are followed. Indeed, FAA regulations treat repair stations as extensions of an air carrier's maintenance organization. This means that the maintenance provider, regardless of their location, must perform the work in accordance with the carrier's maintenance program and the applicable portions of its manual. It also requires the airlines to provide a level of oversight to make certain these standards are met.

This holds true whether the work is being performed at an FAA certificated facility in Florida or France.

Security Is a Prime Concern of All Repair Facilities

Security at contract maintenance facilities has drawn much attention. Domestically, many repair stations located on an airport are required to have their personnel undergo criminal background checks under TSA regulations *if* they require unescorted access to the designated airport security identification display area (SIDA). Therefore, a repair station employee that performs line maintenance for an air carrier would have the same 10-year criminal background check requirement as an airline mechanic. Many repair stations voluntarily implement additional security procedures since the quality and safety of their work directly affects their business.

However, many U.S. repair stations are located miles away from airports and perform specialized work on component parts that have been removed from the airplane and sent to them for repair. These facilities are usually small-businesses; thus, imposing undue security burdens on them would in effect put an entire sector of specialized workers out of business. Our members understand the need for safety and security, since their livelihood depends upon it, and we ask that Congress recognize the difference in repair facilities, remembering that our industry shares their same goal: maintaining a high level of safety and security.

Internationally, each country must implement the types of security procedures to be followed just as they must do in the safety area. These are based on ICAO standards contained in Annex 17 and thus are very similar to TSA regulations. They include, but are not limited to:

- A national civil aviation security program with continuous threat monitoring and mandatory quality control procedures;
- Airport security programs for each airport serving international carriers;
- Air operator security programs;
- Background checks for persons implementing security control measures and persons with unescorted access to restricted security areas; and
- Periodic ICAO security audits.

---

[4] *See,* Department of Transportation Office of Inspector General, Rep. No. AV–2003–047, *Review of Air Carriers' Use of Aircraft Repair Stations,* at 1 (July 8, 2003); Department of Transportation Office of Inspector General, Rep. No. AV–2005–062, *Safety Oversight of an Air Carrier Industry in Transition,* at 1 (June 3, 2005).

The professionals at the TSA, ICAO and other countries' security oversight organizations have concluded that resources should be focused where the threat is greatest. Therefore, FAA foreign repair stations working on components and located miles away from an airport are not required to implement background checks for their employees. However, if they perform line maintenance at an international airport or otherwise require access to the ramp area, foreign repair station employees would be subject to similar security requirements to their FAA counterparts, including background checks.

Neither domestic nor international security requirements are based on whether a person works for an airline or a repair station; they are dependent on the degree of access the individual has to the restricted security areas of an airport. Further, mandating additional security requirements where none are truly needed will reallocate limited oversight resources from areas where the threat is greater. This could have the unintended consequence of reducing the level of security for the traveling public.

Drug and Alcohol Testing

FAA-certificated repair stations in the U.S. are required to conduct drug and alcohol testing for employees performing "safety-sensitive functions" for U.S. air carriers. This means that an employee performing a maintenance task is tested for drug and alcohol use. Additionally, subcontractors used by the repair station are also required to undergo testing. It is important to note that FAA testing requirements do not apply outside the U.S. Therefore, employees of domestic airlines working outside the U.S. must remove their employees from the drug and alcohol pool when they leave the country.[5] Once again, this has nothing to do with whether the individual works for an airline or a repair station; it is based on where the work is performed.

While some have suggested that the U.S. mandate drug and alcohol testing for all aviation maintenance workers if they work on articles subject to FAA jurisdiction, several practical and legal issues arise based on the fact that many of the affected individuals are citizens of another state. Indeed, the FAA proposed drug and alcohol testing outside the U.S. in 1994 but withdrew it in 2000 preferring to develop a multilateral solution through ICAO.[6] Currently, drug and alcohol testing is an ICAO recommended practice; the FAA continues to support making it a standard and thus mandatory for all ICAO members.[7] In addition, a related ICAO standard prohibits individuals from performing safety-critical functions while under the influence of any psychoactive substance.[8]

Conclusion

Foreign repair stations are an essential part of the aviation community. Without them, maintenance could not be performed on aircraft overseas, and the ability of Americans to travel abroad would cease. The standards and procedures followed by foreign repair stations are essentially the same as those followed by domestic repair stations, if they are FAA-certificated and working on U.S.-registered aircraft.

The use of foreign repair stations does not threaten the viability of domestic companies, or aviation safety. In fact, with many American businesses having facilities located worldwide, changes to the use of foreign repair stations will adversely affect domestic companies and encourage foreign countries to retaliate with similar measures. ARSA believes that the Congress should allow the international regulatory processes to work through the body established for that purpose, ICAO.

Congress can help maintain the safety and vitality of this industry by providing the FAA with adequate resources to oversee the repair station industry, encouraging continued oversight by airline customers and other civil aviation authorities, and most importantly by ensuring that legislation and regulations are truly based on safety.

---

[5] 14 CFR part 121, Appendix I, section XII (Drug Testing) and Appendix J, section VIII (Alcohol Testing).

[6] FAA Docket No. 27066; Notice 92–18, effective January 13, 2000.

[7] ICAO Annex 1, Personnel Licensing, § 1.2.7.3 and ICAO Document 9654–AN/945, Manual on Prevention of Problematic Use of Substances in the Aviation Workplace (1995).

[8] ICAO Annex 1, § 1.2.7.1.

Appendix A

FAA Repair Stations by State

[Including Territories]

State	Number of Repair Stations	Number of Employees
AK	53	475
AL	56	6,545
AR	43	3,115
AZ	156	6,469
CA	683	30,811
CO	73	1,219
CT	102	7,730
DC	1	7
DE	6	823
FL	512	16,356
GA	114	9,840
GU	1	6
HI	13	113
IA	38	2,985
ID	31	399
IL	93	3,346
IN	72	3,506
KS	107	7,109
KY	37	581
LA	40	2,251
MA	57	1,893
MD	30	1,100
ME	11	857
MI	114	4,469
MN	59	2,204
MO	55	2,643
MS	20	1,019
MT	25	336
NC	65	3,704
ND	11	101
NE	13	1,213
NH	24	590
NJ	69	2,440
NM	21	624
NV	30	748
NY	129	5,450
OH	142	4,599
OK	139	12,059
OR	48	1,444
PA	99	2,699
PR	18	144
RI	9	385
SC	32	2,388
SD	14	73
TN	51	2,090
TX	428	25,801
UT	29	294
VA	45	1,292
VI	1	1
VT	11	158
WA	119	7,547
WI	46	1,537
WV	12	1,517
WY	9	78
Grand	4,216	197,183

Based on FAA Air Agency Data Dated: June 10, 2007.

Appendix B

FAA Repair Stations on Foreign Soil by Country

Country	Number of Repair Stations	Number of Employees
AE	4	4,224
AR	8	1,727
AS	13	6,868
AU	1	1,150
BA	1	5
BE	12	4,618
BR	15	6,160
CH	30	15,171
CI	4	754
CO	4	1,471
CS	3	480
DA	2	859
DR	2	43
EC	2	131
EG	1	3,500
EI	12	3,429
ES	1	1,200
ET	1	2,230
EZ	2	1,213
FI	1	1,800
FJ	1	26
FR	101	25,972
GM	53	30,457
GR	2	914
GT	2	70
HK	7	5,650
HU	2	806
ID	2	2,832
IN	2	806
IS	13	5,567
IT	20	6,659
JA	20	17,332
JO	2	944
KE	1	5
KS	9	5,629
KZ	1	33
LU	1	329
MO	2	995
MT	1	42
MX	20	4,279
MY	8	4,107
NL	20	7,034
NO	4	1,052
NZ	4	3,377
PE	4	670
PM	1	192
PO	2	3,174
QA	1	41
RO	2	864
RP	8	3,249
RS	1	2,350
SA	5	6,423
SF	4	3,690
SN	48	15,475
SP	6	4,360
SW	8	2,481
SZ	8	4,524
TD	1	153
TH	6	5,650
TU	2	3,006
TW	6	4,844

FAA Repair Stations on Foreign Soil by Country—Continued

Country	Number of Repair Stations	Number of Employees
UK	161	23,998
UP	1	91
VE	4	304
WI	1	100
YI	1	—
Grand	698	267,589

Based on FAA Air Agency Data Dated: June 10, 2007.

APPENDIX C

FAA Repair Stations on Foreign Soil by Country Code Listing

[based on FAA data]

Country Code	Name	Total Repair Stations	Number of Employees	Category 1 = Meets ICAO standards 2 = Does not meet ICAO standards	Bilateral Agreement with the U.S.?
AE	United Arab Emirates	4	4,224	1	—
AR	Argentina	8	1,727	1	Yes
AS	Australia	13	6,868	1	Yes
AU	Austria	1	1,150	1	Yes
BA	Bahrain	1	5	Not Listed	—
BE	Belgium	12	4,618	1	Yes
BR	Brazil	15	6,160	1	Yes
CH	China	30	15,171	1	Yes
CI	Chile	4	754	1	—
CO	Columbia	4	1,471	1	—
CS	Costa Rica	3	480	1	—
DA	Denmark	2	859	1	Yes
DR	Dominican Republic	2	43	2	—
EC	Ecuador	2	131	1	—
EG	Egypt	1	3,500	1	—
EI	Ireland	12	3,429	1	—
ES	El Salvador	1	1,200	1	—
ET	Ethiopia	1	2,230	1	—
EZ	Czech Republic	2	1,213	1	Yes
FI	Finland	1	1,800	1	Yes
FJ	Fiji	1	26	1	—
FR	France	101	25,972	1	Yes
GM	Germany	53	30,457	1	Yes
GR	Greece	2	914	1	—
GT	Guatemala	2	70	2	—
HK	Hong Kong	7	5,650	1	—
HU	Hungary	2	806	1	—
ID	Indonesia	2	2,832	1	Yes
IN	India	2	806	1	—
IS	Israel	13	5,567	1	Yes
IT	Italy	20	6,659	1	Yes
JA	Japan	20	17,332	1	Yes
JO	Jordan	2	944	1	—
KE	Kenya	1	5	Not Listed	—
KS	Korea	9	5,629	Not Listed	—
KZ	Kazakhstan	1	33	Not Listed	—
LU	Luxembourg	1	329	1	—
MO	Morocco	2	995	1	—
MT	Malta	1	42	1	—
MX	Mexico	20	4,279	1	—
MY	Malaysia	8	4,107	1	Yes
NL	Netherlands	20	7,034	1	Yes
NO	Norway	4	1,052	1	Yes
NZ	New Zealand	4	3,377	1	Yes

FAA Repair Stations on Foreign Soil by Country Code Listing—Continued

[based on FAA data]

Country Code	Name	Total Repair Stations	Number of Employees	Category 1 = Meets ICAO standards 2 = Does not meet ICAO standards	Bilateral Agreement with the U.S.?
PE	Peru	4	670	1	—
PM	Panama	1	192	1	—
PO	Portugal	2	3,174	1	—
QA	Qatar	1	41	1	—
RO	Romania	2	864	1	Yes
RP	Philippines	8	3,249	1	—
RS	Russia	1	2,350	1	Yes
SA	Saudi Arabia	5	6,423	1	—
SF	South Africa	4	3,690	1	Yes
SN	Singapore	48	15,475	1	Yes
SP	Spain	6	4,360	1	Yes
SW	Sweden	8	2,481	1	Yes
SZ	Switzerland	8	4,524	1	Yes
TD	Trinidad & Tobago	1	153	1	—
TH	Thailand	6	5,650	1	—
TU	Turkey	2	3,006	1	—
TW	Taiwan	6	4,844	1	—
UK	United Kingdom	161	23,998	1	Yes
UP	Ukraine	1	91	2	—
VE	Venezuela	4	304	1	—
WI	Western Sahara	1	100	Not Listed	—
YI	Yugoslavia	1	—	Not Listed	—
TOTAL	65	698	267,589	60	27

Appendix D

ARSA Repair Station Audit Surveillance Survey Results

Domestic Repair Station Annual Audits

	Responses	Internal	Regulatory	Customer	3rd Party	Total
Total	183	3,301	663	1,361	235	5,560
Average		18.0	3.6	7.4	1.3	30.4

Foreign Repair Station Annual Audits

	Responses	Internal	Regulatory	Customer	3rd Party	Total
Total	27	1,439	219	311	48	2,017
Average		53.3	8.1	11.5	1.8	74.7

Total Repair Station Annual Audits

	Responses	Internal	Authority	Customer	3rd Party	Total
Grand Total	210	4,740	882	1,672	283	7,577
Average		22.6	4.2	8.0	1.3	36.1

APPENDIX E

ANALYSIS OF THE AERONAUTICAL REPAIR STATION ASSOCIATION'S 2007 MEMBER SURVEY

Executive Summary

In March 2007, the Aeronautical Repair Station Association (ARSA) conducted a major survey of its members. The purposes of the 2007 survey were to:

- Develop a better understanding of the markets served by ARSA members;
- Determine what factors most affect member costs of doing business;
- Identify legislative and regulatory issues of common concern to the membership;
- Determine what members perceive as the most important parts of the ARSA value proposition; and
- Identify additional activities the association could undertake to enhance value to members.

This survey's major findings were as follows:

- ARSA's membership is dominated by privately-owned small businesses. Nearly 70 percent of the survey respondents have annual revenues below $10.5 million (Question 2); more than 67 percent have fifty or fewer employees (Question 3); and more than 81 percent are privately-owned by a single individual, single family, or group of partners (Question 12).
- The overwhelming majority of ARSA members (98.5 percent) hold Federal Aviation Administration (FAA) repair station certificates; however, more than two-thirds (68.42 percent) are also European Aviation Safety Administration (EASA) approval holders (Question 7).
- Commercial air carriers are overwhelmingly the most important customer market for ARSA members, with general (business aircraft) the second most important. The military and general (light aircraft) markets are a distant third and fourth (Question 9).
- Labor unions have low penetration in the repair station industry. Fewer than twelve percent of survey respondents report that their facilities are unionized (Question 13).
- The survey results suggest that the repair station industry is thriving economically. More than two-thirds (71.43 percent) of survey respondents said they plan to add positions and/or hire new workers in the coming year. Not a single survey respondent reported plans to eliminate positions. Additionally, 83 percent of survey respondents are optimistic about business prospects for the coming year, only 9 percent are ambivalent, and fewer than 8 percent are pessimistic (Questions 15 and 18).
- There is a considerable level of oversight of repair stations, with 42 percent reporting 11 or more external audits last year by regulators, customers, and third-party accreditation bodies (Question 19).
- FAA resource problems are having some impact on the efficiency of the contract maintenance industry. A quarter (24.81 percent) of the survey respondents report losing customers or foregoing business opportunities because of regulatory delays resulting from inadequate FAA staffing (Question 20.)
- Obtaining maintenance manuals from manufacturers remains a major challenge for repair stations. Consistent with earlier ARSA surveys, more than 70 percent of survey respondents report having had some difficultly obtaining maintenance manuals from OEMs. More than a third (37.59 percent) of respondents report that maintenance manual availability is a consistent source of frustration, and that their ability to serve customers is undermined by manufacturers refusing to provide manuals and/or charging exorbitant prices (Questions 21 and 22.)
- Rising health insurance costs have had a significant impact on ARSA members and their employees, with approximately three-quarters (74.44 percent) of members reporting that they have had to reduce benefits or ask workers to shoulder more of the costs of health insurance in recent years (Question 25.)
- Close to 80 percent of survey respondents have had trouble finding skilled technical workers. More survey respondents cited the shortage of technical workers as the single greatest challenge facing that aviation maintenance industry than any other (Questions 26 and 30).
- ARSA members regard ARSA's advocacy activities on behalf of the industry before U.S. regulators and Congress as the most important parts of the ARSA

value proposition. ARSA's regulatory compliance publications, *the hotline,* and maintenance industry networking opportunities are also highly regarded (Question 33.)

- Survey respondents cite their desire to support ARSA's advocacy activities and access to regulatory compliance assistance as the top reasons for joining ARSA (Question 34.)
- A majority of survey respondents say that their company employees have not yet participated in ARSA's Annual Repair Symposium, suggesting significant opportunities to grow member participation in ARSA's flagship event. Survey respondents are ambivalent about restructuring the Symposium to take place entirely on weekdays and about adding a trade show component to the meeting (Question 40, 42 and 43.)

Survey Methodology

ARSA's 2007 Member Survey was conducted between Feb. 26 and March 6 using SDI Weblink's online survey system. The ARSA key contact for each repair station member and corporate member was invited to participate in the survey through three e-mails sent over the course of the week requesting input. Although the survey was anonymous, the survey system was configured to prevent duplicate responses from the same individual. Ultimately, 133 ARSA member companies participated in the survey out of a population of approximately 520 regular and 15 corporate members. The survey margin of error is 7.3 percent.

Senator MCCASKILL. Thank you.

Mr. Barimo?

STATEMENT OF BASIL J. BARIMO,
VICE PRESIDENT, OPERATIONS AND SAFETY,
AIR TRANSPORT ASSOCIATION OF AMERICA, INC.

Mr. BARIMO. Thank you and good afternoon.

I'm Basil Barimo, Vice President of Operations and Safety of the Air Transport Association of America.

I appreciate the opportunity to join you today, as you consider how the expertise of highly qualified third parties can be applied to air carrier maintenance programs.

Long and varied experience confirms that contract maintenance can be both safe, and efficient, and we should not be hesitant in accepting its use. Before going any farther, though, I want to emphasize that the starting point for any discussion that has aviation safety implications is this—safety is the constant, overriding consideration in our member's activities. They understand their responsibilities, and they act accordingly.

The U.S. airline industry's stellar, and improving, safety record demonstrates that unflagging commitment. Maintenance contracting in the airline industry is undertaken in this overarching context of dedication to safety. It's no different than any other activity in our industry in that respect. Consequently, it's not a shortcut by which shoddy maintenance practices are tolerated, it's not a stray, cutoff from an airlines overall maintenance program, and it's not adrift, detached from regulatory moorings. More decisively, the safety data don't offer a reason to question the use of contract maintenance. Outsourcing has increased over the past decade, yet the U.S. industry's maintenance-related safety record is the best it has ever been. If there were systemic problems with contract maintenance, the safety data would have exposed it, and again, we're talking about NTSB data, not anecdotal claims.

This favorable outcome is to be expected. Once again, context is crucial. Contract maintenance occurs in a highly structured, safety oriented environment, regardless of where it's done.

To begin with, the decision to outsource is for each airline to make. An airline makes that decision as the certificate holder, the regulated entity that is ultimately responsible for the safety of its operations. If the airline elects to use third-party maintenance, the airline is not fluffing off any of its statutory or regulatory obligations. On the contrary, the airline's making a well thought-out determination that outsourcing will contribute—both in terms of results and efficiency—to the airline's maintenance program.

Contract maintenance is common, and commonly accepted in the industry. Virtually every airline, to some degree, relies on contract maintenance—whether in the form of line, heavy, engine or component maintenance. Aircraft operators with demanding and sophisticated maintenance needs, including various branches of the U.S. military, contract for maintenance services. It's not an exotic practice, regardless of where it's done.

The multi-layered and continuous oversight of contract maintenance does more than ensure a safe aircraft, it enhances a robust security system—a complex system of checks and balances, originally designed with safety in mind, are interwoven with security, and asset protection systems, to mitigate risks regardless of their nature.

Oversight is fully integrated into FAA's regulatory structure, the FARs explicitly recognize it, and the FAA certificates repair stations, which must comply with the airlines FAA-approved maintenance program. In addition, as the certificate holder, the airline must monitor the quality of the maintenance that is performed. To do so, airlines conduct indepth and frequent audits of the repair stations that they use, they employ independent auditors, they assign their own onsite representatives to monitor repair station performance, and they measure the reliability of the products produced. Finally, the FAA has a compliance program that surveys the performance of both the airlines and the repair stations.

Continued access to third-party maintenance is one ingredient in some airlines' efforts to remain competitive both here and abroad—that competitiveness is what enables passengers and shippers to receive the services they want, at prices they're willing to pay.

Compromise of safety can never be tolerated, but neither should efforts to limit airlines' ability to obtain necessary services—consistent with the highest degree of safety—as economically as possible. This search for efficiency has meant that some airlines have shifted where their maintenance is done. Sometimes it meant moving the location of in-house maintenance facilities, other times it's meant contracting with a third party, perhaps even overseas, to perform some of the airlines' maintenance. Neither type of change is pleasant, both can adversely affect workers and their communities. It has, however, meant new job opportunities for some workers, and new economic benefits for some communities.

Far from resulting in the export of the majority of U.S. maintenance jobs overseas, it has meant that we've been able to retain them in the United States. This is a key point in evaluating the effects of contracts maintenance.

Thank you for allowing me to share our views today, and I'm glad to answer questions.

[The prepared statement of Mr. Barimo follows:]

PREPARED STATEMENT OF BASIL J. BARIMO, VICE PRESIDENT, OPERATIONS AND SAFETY, AIR TRANSPORT ASSOCIATION OF AMERICA, INC.

Introduction

The Air Transport Association of America, Inc. (ATA), the trade association of the principal U.S. passenger and cargo airlines,[1] appreciates the opportunity to submit these comments for the record on safety and other issues affecting the U.S. airline industry. ATA member airlines have a combined fleet of more than 4,000 airplanes and account for more than 90 percent of domestic passenger and cargo traffic carried annually by U.S. airlines.

Safety is the constant, overriding imperative in our members' activities. They understand their responsibilities and they act accordingly. The U.S. airline industry's stellar—and improving—safety record demonstrates that indisputable commitment.

Airlines Fuel Our Nation's Economy

The U.S. airline industry is not simply an important sector of the national economy; its services fuel our entire economy. Air transportation is an indispensable element of America's infrastructure and our Nation's economic well-being. Individuals, businesses and communities depend on the national air transportation system. U.S. airlines transport more than two million passengers on a typical day and directly employ 550,000 persons to do so; they provide just-in-time cargo services; they are the backbone of the travel and tourism industry; and airlines link communities throughout our Nation and to the world.

Moreover, the airline industry is the foundation of the commercial aviation sector, which comprises airlines, airports, manufacturers and associated vendors. U.S. commercial aviation ultimately drives $1.2 trillion in U.S. economic activity and 11.4 million U.S. jobs. By any measure, the U.S. airline industry is a valuable national asset and its continued economic health should be a matter of national concern.

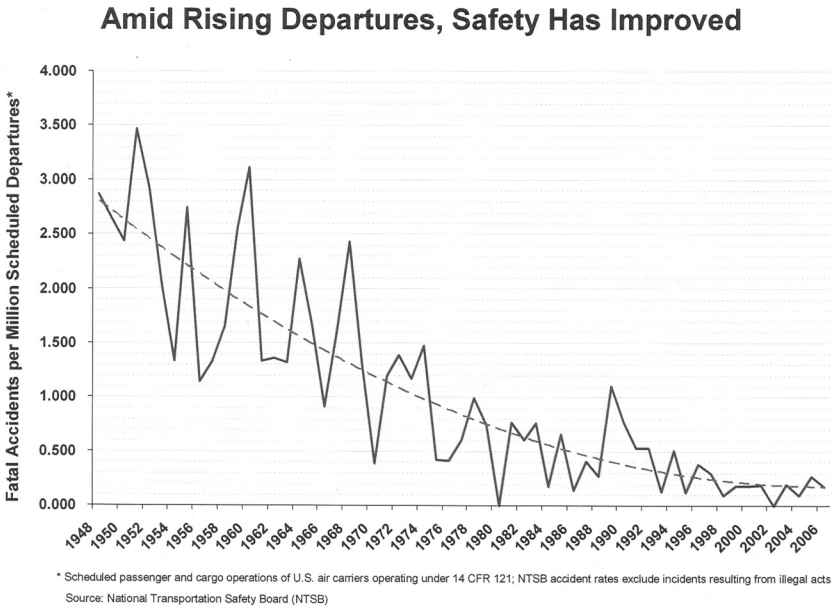
The Safest Airlines in the World

Despite the unprecedented travails of the U.S. airline industry throughout the first half of this decade, its safety record has continued to improve. Our commitment to safety, even in the face of unprecedented financial adversity, has been unflagging and will remain so.

Following $35 billion in losses from 2001 to 2005, 2006 was a much-improved year for the U.S. airline industry from an economic standpoint. Including the all-cargo sector, the industry reported earnings of $3 billion for the year.

While conditions have improved and the overall financial outlook is guardedly optimistic, debt levels remain high, leaving the airlines vulnerable to fuel spikes, recession or exogenous shocks (*e.g.,* terrorism, pandemics, natural disasters), let alone ill-advised public policy decisions. The challenge we face is to achieve meaningful and sustainable profits, and to improve credit ratings to the point where airlines can weather normal economic turbulence while simultaneously investing in the future.

[1] ABX Air, Inc.; Alaska Airlines; Aloha Airlines; American Airlines; ASTAR Air Cargo; Atlas Air; Continental Airlines; Delta Air Lines; Evergreen International Airlines; Federal Express Corp.; Hawaiian Airlines; JetBlue Airways; Midwest Airlines; Northwest Airlines; Southwest Airlines; United Airlines; UPS Airlines; and US Airways.



Notwithstanding these financial challenges, airline safety has remained rock solid. NTSB figures show fewer accidents in 2006 compared to 2005 for all segments of civil aviation, with Part 121 carriers continuing to have the lowest accident rates. In 2006, Part 121 carriers transported 750 million passengers more than eight billion miles and logged 19 million flight hours on 11.4 million flights. Tragically, there were two fatal accidents in 2006 which claimed 50 lives. This yields an accident rate of 0.18 per 1,000,000 departures, down 30 percent from 2005. For comparison, the average rate for the five-year period of 2002–2006 was 0.36, and the 5 years prior to that saw a rate of 0.45 accidents per 1,000,000 departures. The trend continues in 2007 and, without question scheduled air service is incredibly safe, getting safer, and maintenance certainly plays a role in that remarkable achievement.

The chart above clearly depicts the remarkable improvements in airline safety that have occurred over time. U.S. air carrier accidents are rare and random. A prominent reason for this is the extraordinary, long-standing collaboration among the FAA, NTSB, NASA, manufacturers, airline employees and their unions, airlines themselves, and of course, maintenance, repair and overhaul service providers (MROs). That collaborative relationship is firmly entrenched in the aviation community; indeed, it has strengthened over the years. Programs such as the joint government-industry Commercial Aviation Safety Team, Flight Operational Quality Assurance Programs, Aviation Safety Action Programs, and Line Operations Safety Programs are important, tangible results of that ongoing collaboration.

These collaborative safety-improvement efforts have created a safety management system that is data driven and is based on risk analysis. That undistracted focus on data enables safety-related trends to be identified, often before they emerge as problems, and are properly resolved. This objective and measurable approach means that we apply our resources where the needs actually are, not where surmise or unverified assumptions might take us.

We can and do spot these trends, whether they are operational or maintenance related. With respect to the long-standing practice in the airline industry to use the expertise of regulated contractors to perform maintenance services, the data quite clearly do not tell us that safety suffers.

Maintenance Contracting Is Not a New Concept

In simple terms, contract maintenance is the process explicitly allowed by FAR 121.363(b)[2] where airlines hire experts to perform maintenance tasks. The type of maintenance involved can range from minor servicing to major overhaul of components, engines or the airframe itself.

Airlines exist to transport people and goods. In order to survive they must do it safely, but to thrive in a fiercely competitive, global environment they must also do it efficiently. Safety need not be comprised because of considerations of efficiency; in fact, it can be significantly advanced in an environment where a focus on efficiency spurs a willingness to re-examine time-worn practices and encourage innovation that embraces newer—and improved—practices.

The maintenance of commercial airliners is a complex, capital-intensive business requiring specialized equipment and facilities along with highly-skilled personnel. One implication of this is that using a maintenance facility or facilities with specialized skills is likely to be considered. Complexity inevitably will lead a carrier to examine dividing maintenance functions; some airlines will elect to do so, while others will not. Either way, examining alternative sources in this type of environment is entirely reasonable.

Moreover, current airline business models demand continual scrutiny of costs, commonly with a bias to shed non-core activities. In the case of maintenance, there are many incentives to utilize contract maintenance providers:

- Access to specialized repair facilities when and where they are needed
- Avoidance of major capital investments (equipment and facilities)
- Increased utilization of existing facilities
- Improved employee focus on core airline activities
- Optimization of flight schedules around customer demand instead of maintenance infrastructure availability
- Exceptional quality at a reduced cost

As expected, the level of contract maintenance utilized by individual airlines varies significantly based on factors such as the type(s) of aircraft used, geographic region of operation, business philosophy, labor agreement limitations, internal cost structure, and commercial relationships with airframe, engine and component manufacturers. Without exception, all airlines rely to some extent on contract maintenance providers. This is a point that should not be obscured: contract maintenance is a commonly accepted practice in this industry. The extent of it may vary from airline to airline but there is nothing out of the ordinary about its use.

Airlines are by no means unique in their reliance on contract maintenance. In fact, many industries rely heavily on contract maintenance providers for a broad range of services. Trains, buses and cruise ships are predominantly maintained by companies other than those who operate them. The United States Department of Defense contracts with private companies for the maintenance of aircraft, in many cases the same companies utilized by commercial airlines. As this widespread pattern of relying on contract maintenance suggests, operators with very demanding and sophisticated needs routinely and successfully outsource maintenance.

Statistics Don't Lie

Commercial airlines have utilized contract maintenance for decades. The industry's reliance on contract maintenance providers increased since 2001 as airlines restructured their business models. The implications of this change have been misunderstood. It does not signal a diminution in safety or a "slippery slope." Critics of contract maintenance argue that "If airlines don't perform all of the maintenance themselves, then they can't be safe." Independent data from the National Transportation Safety Board (NTSB) proves them wrong.

---

[2] FAR 121.363 Responsibility for Airworthiness states that:

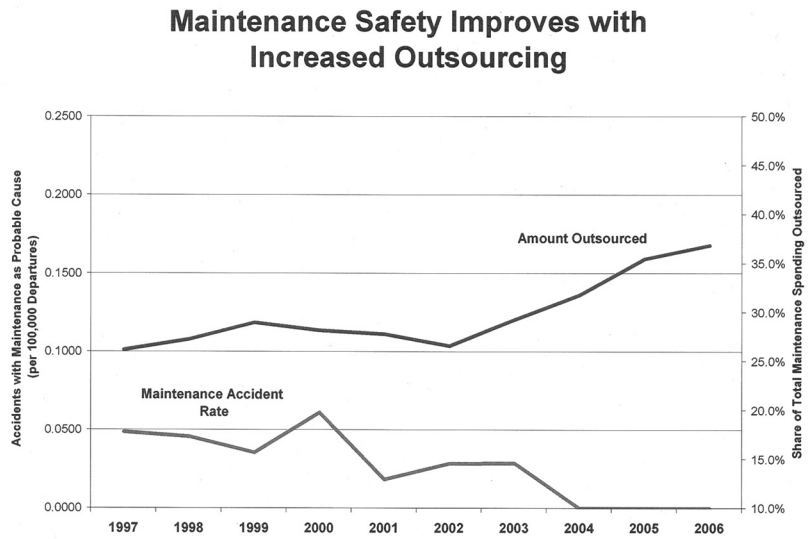
(a) Each certificate holder is primarily responsible for—

(1) The airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof; and

(2) The performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its manual and the regulations of this chapter.

(b) A certificate holder may make arrangements with another person for the performance of any maintenance, preventive maintenance, or alterations. However, this does not relieve the certificate holder of the responsibility specified in paragraph (a) of this section.

Based on data compiled by the NTSB, maintenance-related accidents make up roughly 8 percent of all Part 121 accidents over the last 10 years.



The chart above clearly illustrates that U.S. airlines' use of contract maintenance has not been a detriment to safety. In fact, maintenance-related safety performance is the best its ever been. It is simply not reasonable, based on the data available, to consider the practice of maintenance contracting unsafe.

Effective Oversight Is the Key

Air carriers understand that aircraft maintenance is vital to continued operational safety. Likewise, safe operations are elemental to compliance with regulatory requirements and ultimately to an airline's existence. Over time, the industry has developed a comprehensive, multilayered approach to oversight that ensures the highest levels of quality and safety regardless of who does the work or where that work is performed. This point cannot be overstated—safety is what counts, first and foremost.

Initial levels of protection are contained in the Federal Aviation Administration (FAA) regulations, which provide a basic framework to ensure competence among those certificated to perform aircraft maintenance.[3] Prior to granting certification, the FAA confirms that an entity or individual has fulfilled specific regulatory requirements.

Part of this approval process involves the issuance of Operations Specifications (OpSpecs) by the FAA. Air carrier OpSpecs contain a specific section to address aircraft maintenance, and repair station OpSpecs delineate the ratings and limitations of the maintenance that can be performed. In FAA Order 8300.10, Volume 2, Chapter 84, it is stated, in part, that:

> OpSpecs transform the general terms of applicable regulations into an understandable legal document tailored to the specific needs of an individual certificate holder. OpSpecs are as legally binding as the regulations . . . (*Citations omitted*)

Once certificated, air carriers and repair stations are inspected and monitored by the FAA to verify their continued conformity with the rules. This ongoing surveillance process can be viewed as the second layer of safety.

Additionally, certificated air carriers acquire the *non-delegable* responsibility for the airworthiness of the aircraft in their fleet.[4] The backbone of any air carrier's

[3] See, for example, 14 CFR parts 121, 145 and 65.
[4] See 14 CFR §121.363 which provides that:

(a) Each certificate holder is primarily responsible for—

Continued

airworthiness is its Continuing Analysis and Surveillance System (CASS). CASS is a quality-assurance system required by FAR 121.373 consisting of surveillance, controls, analysis, corrective action and follow-up. Together, these functions form a closed loop system that allows carriers to monitor the quality of their maintenance. In a structured and methodical manner, the CASS provides carriers with the necessary information to enhance their maintenance programs.

Aircraft maintenance is the primary ingredient of airworthiness and FAA regulations contain detailed maintenance program and manual requirements,[5] which validate the related air-carrier processes and procedures. When work is sent to a repair station, it must follow the maintenance program of the air carrier with whom it has contracted.[6] Combined, these duties comprise the third level of protection.

Apart from external FAA surveillance, and in line with their ultimate responsibility for airworthiness, airlines conduct in-depth initial and frequent follow-up maintenance vendor audits. As a rule, these audits are performed by air carrier quality, compliance or inspection department employees, but oftentimes may include outside counsel and/or consulting firms who specialize in air carrier maintenance. These audits create a robust fourth level of oversight.

Industry protocol for conducting and substantiating independent audits of air carriers and repair stations is established by the Coordinating Agency for Supplier Evaluation (C.A.S.E.). In addition, guidance materials and inspection checklists created for FAA inspectors are frequently used.

Typically, preliminary investigation of a potential repair station vendor by an air carrier would include:

- Review of repair station performance and quality metrics
- Feedback from past and current repair station customers
- Verification of repair station capabilities (OpSpecs)
- Review of FAA mandated Repair Station Manual, Quality Manual and Training Manual

If this repair station examination is satisfactory, it is normally followed by an on-site visit to verify compliance with applicable regulations, C.A.S.E. requirements and adherence to the repair station's own manuals. Some areas of investigation include:

- Validation of FAA certificates held by persons directly in charge of maintenance and/or those who perform maintenance
- Inspection of training records of inspectors, technicians and supervisors
- Examination of procedures for technical data, documentation and maintenance record control
- Examination of procedures for work processing, disposal of scrap parts, tool calibration and handling material with a limited shelf life
- Review of repair station internal inspection, quality, and security programs
- Review of previous inspection program results and corrective actions

If the repair station is selected to perform maintenance for the air carrier, similar on-site audits would be conducted on a regular basis.

Finally, a fifth layer of oversight is provided by on-site air carrier representatives. These individuals monitor the day-to-day operations and coordinate the activities of the repair station related to the air carrier's equipment. Final inspections and, ultimately, air carrier approval for service are also normally accomplished by these on-site airline personnel.

---

(1) The airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof; and

(2) The performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its manual and the regulations of this chapter.

(b) *A certificate holder may make arrangements with another person for the performance of any maintenance, preventive maintenance, or alterations. However, this does not relieve the certificate holder of the responsibility specified in paragraph (a) of this section. (Emphasis added.)*

[5] See 14 CFR §§ 121.365; 121.367; 121.369.

[6] See 14 CFR §145.205 which states, in part, that:

(a) A certificated repair station that performs maintenance, preventive maintenance, or alterations for an air carrier or commercial operator that has a continuous airworthiness maintenance program under part 121 or part 135 *must follow the air carrier's or commercial operator's program and applicable sections of its maintenance manual. (Emphasis added.)*

In essence, there are two separate but mutually reinforcing oversight schemes, one regulatory and one independent, both effective in ensuring satisfaction of applicable FAA regulations. However, air carriers have further incentive to provide adequate oversight through the potential negative impact—real or perceived—of safety related issues. Without question, air carriers continue to make safety their top priority. Safety is ingrained in our culture.

Safety and Security Layers Are Interwoven

Security of repair station activities is a constant consideration. As in other areas of civil aviation security, the response to this issue is based on a layered approach.

The subject of foreign repair station security measures has attracted attention recently. We wish to clarify a few points about those measures. As a preliminary matter, we support the Congressional instruction to the Transportation Security Administration to issue foreign repair station security regulations. We look forward to participating in the anticipated TSA rulemaking proceeding.

Mutually reinforcing U.S. and host country regulatory requirements and carrier practices produce the layered security regime at foreign repair stations. This begins with a U.S. air carrier's evaluation of a potential service provider before it enters into a contract for maintenance, repair or overhaul services. This is an important first step for the carrier; it is looking to entrust an aircraft or high-value components to a vendor. The carrier obviously wants to prevent unauthorized access to such equipment and to be confident that the potential vendor can do so. Beyond that very basic business concern, are the security requirements that the country's civil aviation authority and the airport authority impose. Those requirements are reinforced by periodic TSA foreign airport security inspections. Coupled with those requirements is the typical presence of a representative of the U.S. carrier at the foreign facility. Weaved into this array of measures is the FAA requirement that repaired or overhauled items be inspected when they are returned to the U.S. carrier and before they are returned to service aboard an aircraft. This means that multiple sets of trained eyes inspect a part that has been at a foreign repair station. Finally, before an aircraft is returned to passenger service from a foreign location, it must complete the aircraft security inspection procedures.

These complementary procedures yield a layered approach, which is the hallmark of how aviation security is achieved today. We look forward to continue to work with U.S. and foreign regulators on these measures.

Global Competition, Local Politics

U.S. airlines continually lead the world in virtually every performance metric, including safety. Their ability to compete effectively on a global scale is due, at least in part, to their ability to evolve with changing market conditions. Airlines across the United States and around the world have formed alliances that extend beyond their networks to many aspects of airline operations, including maintenance. These complex relationships involve airlines, aircraft manufacturers and a host of service providers.

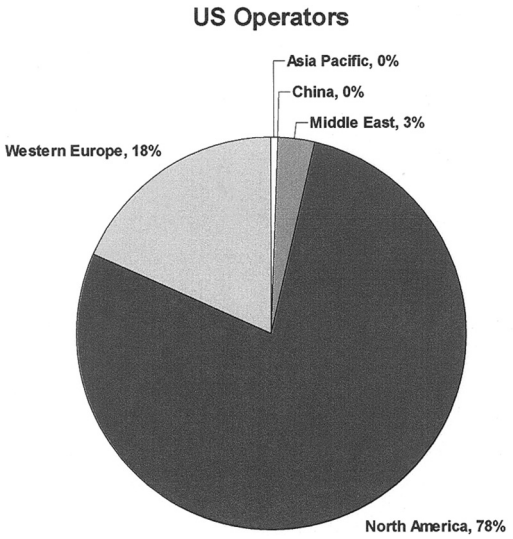
The loss of some 130,000 airline jobs since 9/11 has been well documented. As airlines downsized to meet a reduced demand for air travel, it became even more difficult for them to efficiently utilize their exhaustive maintenance infrastructure. Fleet reductions targeted older, maintenance-intensive aircraft, leaving too few aircraft being maintained at too many facilities, and airlines looked to contract maintenance providers as a way to secure quality maintenance while shedding the expensive infrastructure costs. Airlines were also forced to renegotiate labor agreements in an effort to reduce costs, bolster productivity and increase asset utilization. Scope clauses were modified to allow air carriers to more broadly leverage contract maintenance—a painful move for affected employees, but ultimately essential to the airline's survival. It is this impact on employees, particularly maintenance employees, that draws attention to the issue of maintenance contracting.

The debate surrounding the issue of contract maintenance is best understood when broken down into several key points:

- Most statistics relating to the amount of maintenance contracted are based on the amount an airline spends. The amount 'outsourced' is derived by dividing the amount spent on contract maintenance by the total maintenance cost for the airline. These include all costs associated with the maintenance of airframes, engines and components.
- Engine maintenance is much more expensive per event than airframe maintenance, due largely to the replacement of expensive parts within the engine. The fact that virtually all engine maintenance is performed outside the airline can skew the numbers.

- Even the largest engines are readily transportable enabling access to repair centers around the world. Engine manufacturers such as GE, Pratt & Whitney, and Rolls-Royce rely on their subsidiaries worldwide for maintenance of their products although, as shown below, most of that work is performed domestically. Large U.S. airline MROs also maintain engines for foreign and domestic customers.

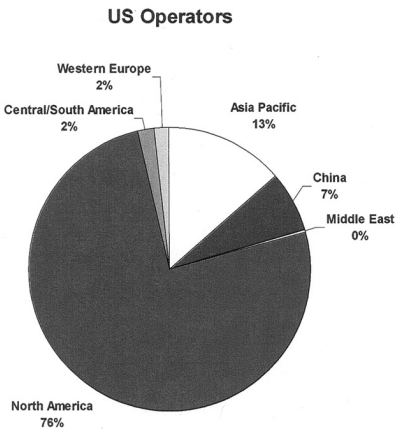
Where Engine Work Goes



- ATA-member airlines continue to perform the majority of airframe checks internally.[7]
- The majority of narrow-body aircraft maintenance work contracted out in the past few years has stayed within North America. Maintenance, repair and overhaul companies (MROs) in Washington, North Carolina, Florida, New York, Georgia, Tennessee, Arizona, Texas and Indiana are among those now performing the work. Large airlines with available capacity have also captured a portion, and the remainder is performed by experts in Central/South America and Canada.

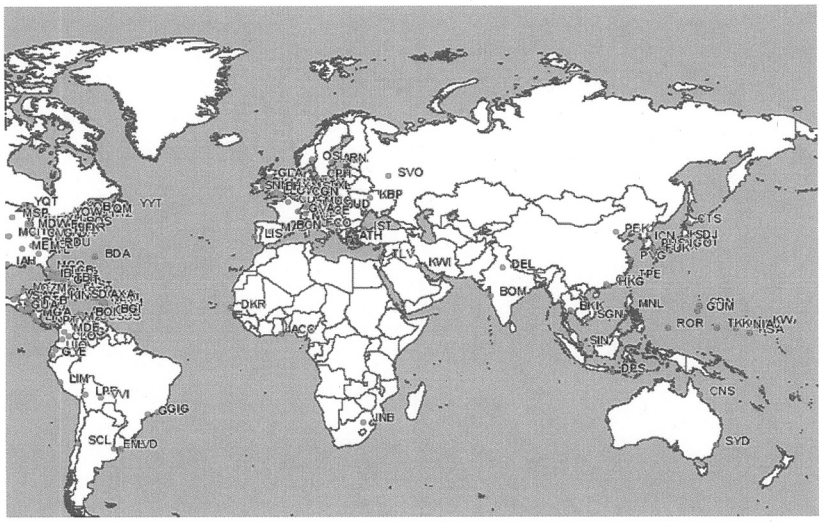
[7] According to a 2005 survey of ATA member airlines, 70 percent of all heavy maintenance checks ('C' or higher) were performed internally by direct airline personnel.

Where Heavy Airframe Work Goes



- Heavy airframe maintenance performed by MROs outside of North America is limited primarily to wide-body aircraft. Regularly scheduled operations enable these long-range aircraft to routinely transit locations abroad that offer best-in-class maintenance for these aircraft types. Asia and Europe do much of this work.

Easy Access to Global MROs



Conclusion

U.S. airlines have logged an exceptional safety record while steadily expanding their use of contract maintenance. So while critics charge that maintenance contracting undermines safety, independent government figures simply don't support that conclusion. When considered objectively, it is evident that the practice helps U.S. airlines compete effectively with their global counterparts. The ability to optimize maintenance practices to produce safe, reliable, customer-worthy aircraft at a

competitive cost is essential to airlines' long-term health. Healthy airlines grow, adding service to new destinations and increasing service to existing ones. That growth requires new aircraft, creating new jobs within the airline for pilots, flight attendants, ramp and customer service personnel, and a wide range of support staff. Beyond the airline, the impact grows exponentially and is felt nationwide by manufacturers, ATC service providers, airports, caterers, fuelers—the list goes on and on. Contract maintenance has played and continues to play an important role in improving the health of the U.S. airline industry—in a way that is entirely consistent with our fundamental commitment to safety. It is imperative that this fact not be overshadowed by the movement of jobs from one state or district to another.

Senator MCCASKILL. Thank you, Mr. Barimo.

Mr. Brantley?

STATEMENT OF TOM BRANTLEY, PRESIDENT, PROFESSIONAL AIRWAYS SYSTEMS SPECIALISTS (PASS), AFL–CIO

Mr. BRANTLEY. Madame Chairwoman, Chairman Rockefeller, Senator Lott, and members of the Subcommittee, thank you for inviting PASS to testify today.

PASS represents over 11,000 FAA employees, including approximately 2,800 Flight Standards aviation safety inspectors.

In recent years, the aviation industry has experienced dramatic changes, including airlines increasing their reliance on outsourced maintenance work, and a large portion of this work is being performed at FAA-certificated foreign repair stations.

PASS and the inspector workforce we represent, who are responsible for overseeing the certification of and the work performed at foreign repair stations, have serious concerns regarding the oversight of these facilities.

Of primary importance, there must be an adequate number of experienced and trained FAA inspectors in place with budgetary and management support to properly oversee foreign repair stations.

Inspector staffing has not kept pace with the exploding outsourcing business and nearly half of the workforce will be eligible to retire within 3 years. As such, PASS is requesting that Congress direct the agency to follow recommendations outlined in the recent study released by the National Academy of Sciences, and develop a staffing model for inspectors.

Instead of addressing the inspector staffing issue, however, the FAA is working to expand the use of Bilateral Aviation Safety Agreements, which allow foreign authorities to provide oversight of the work performed at repair facilities. There are inherent problems associated with allowing non-FAA employees in foreign locations to perform work on behalf of the FAA. Primarily, the fact that the FAA does not have adequate oversight procedures in place to ensure the quality of these inspections.

The FAA is entering into these bilateral agreements with other countries not to strengthen aviation safety, but instead to pass the responsibility for oversight onto another entity. It must be required and verified that inspections conducted by foreign authorities are done in line with the safety standards and regulations of this country. Until this issue is adequately addressed, additional agreements with foreign aviation authorities should not be allowed.

In addition, inspectors tell us of several problems regarding the regulations governing foreign repair stations and the security at foreign repair stations, since the FAA does not require the same se-

curity screening or drug and alcohol testing of employees at foreign repair stations as are required in our own country.

Furthermore, the process an inspector must go through, in order to gain access to a foreign repair station is so lengthy and tedious that by the time the inspector arrives at the facility, the repair station is fully aware of the visit and the element of surprise is nonexistent, rendering the inspection a simple formality.

The FAA will argue steadfastly that it cannot impose standards on foreign countries for drug and alcohol testing of employees at foreign repair stations or demand that inspectors be allowed to conduct unannounced inspections. Clearly, the United States cannot insist that another country apply our standards and regulations, nor can we dictate the requirements under which a foreign business must operate.

However, by requiring the same standards for foreign as it does for domestic repair stations, the FAA would not be mandating that a foreign government or business do anything since these foreign repair stations choose to voluntarily contract with U.S. carriers.

The FAA's responsibility in this regard is to maintain oversight of all aspects of aviation safety, including where and how repair work is performed. To hold foreign facilities to lesser standards not only compromises safety, it gives an unfair advantage to foreign businesses that do not have to meet the same standards as those in the United States.

Oversight of foreign repair station maintenance is in critical need of attention and improvement. The FAA must take immediate steps to increase staffing for its inspector workforce so they are able to continue to defend this country's reputation as having the safest aviation system in the world.

Thank you, and I would be happy to answer any questions that you have.

[The prepared statement of Mr. Brantley follows:]

PREPARED STATEMENT OF TOM BRANTLEY, PRESIDENT, PROFESSIONAL AIRWAYS SYSTEMS SPECIALISTS (PASS), AFL–CIO

Chairman Rockefeller, Senator Lott and members of the Subcommittee, thank you for inviting PASS to testify today on the oversight of foreign aviation repair stations. Professional Airways Systems Specialists (PASS) represents 11,000 Federal Aviation Administration (FAA) employees, including approximately 2,800 Flight Standards field aviation safety inspectors [1] located in 103 field offices in the United States and eight international field offices in the United States and abroad. FAA inspectors are responsible for certification, education, oversight, surveillance and enforcement of the entire aviation system, including air operator certificates, repair station certificates, aircraft, pilots, mechanics, flight instructors and designees.

In recent years, the overall dynamic of the aviation industry has experienced significant changes. One such change in practice is the outsourcing of maintenance work to repair stations in this country and abroad. Whereas much of this work was once done at the air carrier's facility, according to the Department of Transportation Inspector General, air carriers' use of outsourced repair stations has grown from 37 percent of air carriers' maintenance costs in 1996 to 62 percent in 2005, or nearly $3.4 billion of the $5.5 billion spent on maintenance. During the first three quarters

[1] As of February 2007, the FAA lists the number of Flight Standards inspectors as 3,593. This figure, however, includes first line field and office managers; the PASS figure only includes inspectors who actually perform inspection functions in the field.

of 2006, the amount of outsourced maintenance had already increased to 64 percent.[2]

A large portion of this work is being performed at facilities in foreign locations; there are currently over 690 foreign repair stations certified by the FAA. FAA inspectors at international field offices (IFOs) are charged with certifying these repair stations and then recertifying them approximately every 2 years. FAA inspectors at certificate management offices (CMOs) in this country provide oversight of the maintenance work performed on their assigned air carriers at FAA-certificated foreign repair stations. However, with the current state of the inspector workforce and the tedious and bureaucratic process behind inspecting foreign repair stations, many inspectors say that they are not confident with the level of oversight of foreign repair stations and that serious safety issues are not being addressed.

Airworthiness Inspectors

The airworthiness inspector workforce consists of both avionics and maintenance inspectors, and there are two types of airworthiness inspectors—general aviation and air carrier:

- *General aviation inspectors* oversee both foreign and domestic repair stations. Inspectors at IFOs are responsible for certifying FAA-certificated foreign repair stations. There are eight FAA IFOs located worldwide in Alaska, California, Florida, New York, Texas, England, Germany and Singapore that conduct certifications and surveillance of U.S. foreign repair stations in a particular geographic area. When inspecting a foreign repair station, the IFO inspectors examine several important elements, including, among other things, ensuring that the repair station has and continues to comply with the *Code of Federal Regulations* Part 145 for their repair station certificate and operation specifications, making sure repair station manuals continue to meet Federal Aviation Regulations, and examining the maintenance training, tools and equipment. These inspections vary depending on the size and complexity of the repair station, with the time to complete an inspection on a foreign repair station ranging from a day to a week or more, not including travel time.
- *Air carrier inspectors* are assigned to a specific air carrier and examine the certificate-specific work on behalf of the air carrier certificate to which they are assigned. An air carrier inspector examines the actual work being done at the air carrier's facilities or a repair station related to their respective air carrier certificate and not the repair station in general. This can include inspecting the aircraft, examining technical data, and looking at housing and facilities. Air carrier inspectors often "spot check" specific areas based upon risk-assessment data, a process that can take a few hours or several days depending on the area of concern.

Following an inspection, both the general aviation and air carrier airworthiness inspectors enter the results of their inspections into specific FAA databases. General aviation inspectors use the Program Tracking Reporting System (PTRS) database, and air carrier inspectors enter information into either the PTRS database or the Air Transportation Oversight System (ATOS) database. This information is then available for all FAA inspectors through the Safety Performance Analysis System (SPAS), enabling inspectors to analyze areas of potential concern.

Inadequate Inspector Staffing

A recent study released by the National Academy of Sciences called attention not only to insufficient inspector staffing but also to the FAA's lack of a viable staffing model to determine whether it has the correct number of skilled individuals in position to accomplish the responsibilities of the job. As noted by the Academies, "The number of aviation safety inspectors employed by the FAA has remained nearly unchanged over the past several years, while aviation industries, especially the commercial air carriers, have been expanding and changing rapidly."[3]

The increasing use of foreign repair stations has been drawing even more attention to the inspector staffing problem. As the industry continues to expand, the number of FAA inspectors has not kept pace; in fact, nearly half of the workforce will be eligible to retire by 2010. Unfortunately, for 2008, the FAA is only request-

[2] Department of Transportation Inspector General, *Aviation Safety: FAA's Oversight of Outsourced Maintenance Facilities,* CC–2007–035 (Washington, D.C.: March 29, 2007), p. 1.

[3] National Research Council, Committee on Federal Aviation Administration Aviation Safety Inspector Staffing Standards, *Staffing Standard for Aviation Safety Inspectors* (Washington, D.C.: The National Academies Press, 2006), p. 1–4.

ing funding to hire an additional 87 inspectors[4] above attrition despite the looming surge in retirements and the fact that it takes two to 3 years to fully train an inspector.

With airlines increasing their reliance on outsourced maintenance work, the workload of inspectors located at CMOs charged with overseeing this work has skyrocketed but inspector staffing has remained stagnant. A prime example of the problems with inspector understaffing and the increasing reliance on outsourced maintenance work is Delta Airlines. Since 2005, Delta has outsourced all of its heavy maintenance work. Inspecting the heavy maintenance work involves a thorough examination of an entire airplane. According to one inspector at the Delta CMO, when this work was performed at the Delta facility, an inspector could oversee the work by traveling a mere seven miles to the Delta facility. Now, inspectors are forced to travel from the CMO in Atlanta to places located hours away, such as Florida, Mexico or, as recently announced by Delta, China. To make matters worse, staffing figures are down considerably at the CMO—after losing four inspectors last year and another two this year with no replacements hired, the CMO is now staffed at 11 airworthiness inspectors with a few additional inspectors at different locations.

Inspectors stationed at IFOs responsible for certifying repair stations also face several problems related to insufficient staffing. The number of foreign repair stations is on the rise as more and more air carriers outsource work to these less-expensive alternatives. A lack of inspector staffing, however, makes it difficult to perform these certifications and impossible to do any follow-up if a problem is detected. For instance, there are only eight airworthiness inspectors at the London IFO responsible for 165 certificates in England and Scotland. When one of these inspectors dedicated to avionics went on medical leave, this left only one avionics inspector to cover all 165 of these repair stations. In another example, for years, a single inspector at the Miami IFO had been responsible for certifying the 14 certificated repair stations in Brazil, many of which are expansive, complicated facilities. The need for additional staffing was finally addressed in this particular situation and another inspector has been assigned to the repair stations in Brazil.

If the industry is going to continue to increase its use of foreign repair stations, it is essential to aviation safety that there are enough inspectors to ensure oversight of the repair stations and the work performed there. Many of our inspectors have told PASS that their workload is based on the number of inspectors available rather than the oversight that is needed. As such, PASS is requesting that Congress direct the agency to develop a staffing model for aviation safety inspectors and follow the recommendations outlined in the Academies study. The Academies staffing study also emphasized the importance of involving those who are affected by the staffing model in its development, specifically stating that aviation safety inspectors, as well as PASS, should be included in the process from the beginning and remain active participants through the model's design, development and implementation. In addition, the FAA should be required to report to Congress on a quarterly basis on its inspector workforce plan in order to ensure that the agency has an adequate number of inspectors to oversee the industry.

Funding Constraints

Combined with the low staffing numbers, insufficient funding for travel obviously has a considerable impact on the FAA's ability to perform oversight of foreign repair stations. PASS is hearing from our inspectors of more and more instances in which FAA inspections of major repair stations that perform heavy maintenance work have been canceled or cut short due to lack of funds. According to inspectors in the field, the inspection process has become primarily budget driven rather than motivated by safety.

CMO inspectors located in this country encounter numerous problems when trying to travel to foreign repair stations and are often questioned by FAA management as to the necessity of travel expenses needed to reach a location where maintenance is being performed. For example, a recent trip to a repair station in Germany was approved and then canceled at the last minute when the inspector was told that there was not enough funding to perform the inspection. In another situation, a CMO inspector responsible for examining air carrier outsourced maintenance work performed at repair stations in Singapore, China and Ireland is only able to get to these repair stations *every four or five years*. Even more disturbing, another CMO inspector responsible for work being performed in Scotland has *never* even been to the repair station. Although infrequently seen by the CMO inspector, it should be

[4] Government Accountability Office, *Federal Aviation Administration: Key Issues in Ensuring the Efficient Development and Safe Operation of the Next Generation Air Transportation System,* GAO–07–636T (Washington, D.C.: March 22, 2007), p. 31.

noted that these repair stations are still recertified by an IFO inspector approximately every 2 years.

The ability to follow up once a problem is detected is an issue faced by both CMO and IFO inspectors, and both of these groups of inspectors say funding is the primary reason for not being able to follow up on an issue. One IFO inspector reports that they often have to wait until the following year to validate whether or not a problem has been corrected or pass on the issue to the next inspector traveling to that country. CMO inspectors are often only able to send the repair station a letter, depend on the repair station's response for closure, and wait until the next inspection in order to determine if the issues have been addressed and a long-term solution incorporated.

It is impossible to ensure safe operations at these repair stations if inspectors are rushed in their inspections, unable to perform adequate follow-up or prevented from visiting the repair stations altogether. The IG specifically addressed the impact of the lack of resources on the oversight process, concluding that "adequate resources need to be committed to air carrier oversight to ensure the continuity of safe operations, particularly as the airline industry makes significant and ongoing transitions in their operations."[5] As such, PASS feels that it is imperative that the FAA allocate adequate resources for FAA inspectors to visit each foreign repair station at a minimum of twice a year.

Additional Concerns With Oversight of Foreign Repair Stations

Inspectors in the field relay several problems associated with traveling to foreign countries to examine repair stations. The process for traveling overseas to inspect a repair station is so labor intensive, often involving State Department coordination and country clearances, that an inspector, on average, must give 60 to 90 days notice prior to their arrival at the repair station. In addition, inspectors must often travel in pairs when visiting specific countries that may be considered unsafe. When the inspector is finally able to get to the foreign repair station, the repair station is fully aware of the visit and the element of surprise is nonexistent, rendering the inspection a simple formality.

Once the inspector has traveled to the repair station, inspecting the repair station or the work performed there introduces additional difficulties, including cultural and language issues, trouble accessing equipment, and inability to examine all processes and services used. In many cases, employees working at foreign repair stations cannot read or speak English; yet, the air carrier and repair station maintenance instructions are usually written in English. Inspectors traveling to foreign locations reveal that training is also a major problem overseas and that they often see maintenance employees working on aircraft without the proper training. For instance, inspectors report that personnel at foreign repair stations do not understand that an item with an expired shelf life cannot be used even if it still appears in good condition.

There is also serious concern over the regulations governing foreign repair stations. For example, as opposed to domestic airline or repair station employees, workers at foreign repair stations are not required to pass drug and alcohol tests. In addition, criminal background checks are not required at foreign repair stations. There also continues to be major concerns regarding security at these facilities, with many of the repair stations lacking any security standards. It should go without saying that if a foreign repair station wants to work on U.S.-registered aircraft or any aircraft that operate in this country, those repair stations should be required to meet the same safety standards as domestic repair stations.

Increasing Use of Bilateral Aviation Safety Agreements (BASAs)

Instead of addressing the inspector staffing and funding issues, the FAA continues to expand the use of bilateral agreements with foreign countries to oversee repair stations working on U.S. carriers. The Bilateral Aviation Safety Agreement (BASA) with Maintenance Implementation Procedures allows foreign authorities to provide oversight of the work performed at repair facilities with limited involvement from FAA inspectors. This eliminates the need for the inspector to travel to the repair station at all and entrusts responsibility entirely to a foreign entity. However, there are inherent problems associated with allowing non-FAA employees in foreign locations to perform work on behalf of the FAA, primarily the fact that the FAA does not have adequate oversight procedures in place to ensure the quality of these inspections. PASS's concerns regarding the FAA's use of bilateral agreements include the following:

---

[5] Department of Transportation Inspector General, *Safety Oversight of an Air Carrier Industry in Transition,* AV–2005–062 (Washington, D.C.: June 3, 2005), p. 3.

- According to the Department of Transportation Inspector General (IG), foreign inspectors do not provide the FAA with sufficient information on what was inspected, the problems discovered and how these problems were addressed. The IG goes so far as to state that at least one foreign authority representative said that "they did not feel it was necessary to review FAA-specific requirements when conducting repair inspections."[6]
- The information provided to the FAA by foreign inspectors is often incomplete, inaccurate or difficult to understand due to language constraints. In fact, the inspection documents given to the FAA were found to be incomplete or incomprehensible in 14 out of 16 files reviewed by the IG (88 percent).[7] Although the reports are supposed to be filed in English, this is often not the case. Furthermore, the FAA does not even require that these foreign aviation authorities provide the appropriate amount of information in order to allow FAA inspectors to verify that the work is being done.
- As part of the bilateral agreements, FAA inspectors can perform annual "sample" inspections of up to 10 percent of facilities already reviewed by foreign inspectors. This system of "spot checking" only highlights the serious deficiencies with the bilateral agreement process. In one case cited by the IG, when the FAA performed a sample inspection of a repair station that had already been inspected by a foreign inspector, the FAA inspectors found 45 problems, several of which were directly related to FAA requirements.[8] Foreign aviation authorities rely on European requirements rather than adhering to U.S. safety standards. Currently, other than these ineffective sample inspections, the FAA primarily conducts surveillance of foreign aviation authorities through desk reviews of inspection documents, the quality of which has already been highlighted as a major issue. In other words, the FAA has no true way to ensure that the inspections at these foreign repair stations are being conducted according to U.S. regulations. In addition, inspectors report that the foreign aviation authorities are not always reporting to the FAA deficiencies found during their inspections, which leaves FAA inspectors with the impression that there are no problems.
- In order to visit a country holding a BASA, the inspector must provide data to prove that a trip is necessary. However, the foreign civil aviation authorities are often not providing accurate data to the agency, making it impossible for the inspector to show that a trip is warranted. In one case, there was no information in the database on problems with a repair station in Frankfurt, but when an inspector was finally able to get to the facility, he noticed several serious violations that had not been put into the system. If these countries are not providing the United States with data, it is impossible to ensure the safety of the facility or the work being performed there.

In 2003, the IG issued recommendations to enhance FAA oversight of foreign repair stations. Regarding the many problems with bilateral agreements, the IG recommended that the FAA modify inspection documentation requirements with foreign aviation authorities and develop procedures to ensure that foreign inspectors place appropriate emphasis on FAA requirements when conducting reviews on the FAA's behalf. The IG also advised that the FAA revise procedures for conducting sample inspections of repair stations to allow the FAA to conduct the necessary number of inspections to ensure the work is being completed properly. In recent testimony before the House Aviation Subcommittee, the IG stated that while the FAA has worked to improve the surveillance foreign authorities are performing on the FAA's behalf since the 2003 report, the IG remains nonetheless concerned that "FAA is still not regularly visiting the facilities in the countries where agreements exist with other aviation authorities."[9] The IG cited an example in which FAA inspectors for one air carrier had not visited a major foreign engine repair facility even though the repair station had performed maintenance on 39 (74 percent) of the 53 engines repaired for the air carrier. Furthermore, FAA IFO inspectors had not conducted any spot inspections of this facility in 5 years.[10]

Without a doubt, the FAA must take steps to ensure that inspections conducted by foreign authorities are done in line with the safety standards and regulations of

---

[6] Department of Transportation Inspector General, *Review of Air Carriers' Use of Aircraft Repair Stations,* AV–2003–047 (Washington, D.C.: July 8, 2003), p. v.

[7] *Id.*

[8] *Id.*

[9] Department of Transportation Inspector General, *Aviation Safety: FAA's Oversight of Outsourced Maintenance Facilities,* CC–2007–035 (Washington, D.C.: March 29, 2007), p. 9.

[10] *Id.*

this country. Until this issue is adequately addressed, along with the IG recommendations, additional agreements with foreign aviation authorities should not be allowed.

Use of Non-Certificated Repair Facilities

"Non-certificated" means that the repair facility does not possess a certificate issued by the FAA to operate under the *Code of Federal Regulations* Part 145 and is therefore not subject to direct FAA oversight. A certificated repair station meets the standards as outlined in the Federal Aviation Regulation and is therefore subject to direct FAA oversight to ensure that it continues to meet those same standards. The differences in regulatory requirements and standards at the two facilities are extremely troubling. For example, in an FAA-certificated repair station, it is required that there be designated supervisors and inspectors and a training program. These items are not required at non-certificated repair facilities.[11]

Effective oversight of non-certificated repair facilities gained attention in the aftermath of the January 2003 Air Midwest crash in Charlotte, N.C. The National Transportation Safety Board determined that incorrect rigging of the elevator system by a contractor contributed to the accident and pointed to "lack of oversight" by Air Midwest and the FAA.[12] The airline contracted out the work to an FAA-certificated repair station, which then subcontracted to a non-certificated repair facility. Under Federal regulations, the airline is ultimately responsible for ensuring that the work performed at a non-certificated repair facility is done in accordance with standards and requirements.

A December 2005 IG report called attention to airlines' increasing use of non-certificated repair facilities to perform maintenance work, directing the FAA to improve its oversight of air carriers' use of these facilities. According to the IG, the FAA does not know how many non-certificated maintenance facilities air carriers currently use, but the IG identified "as many as 1,400 domestic and foreign facilities that could perform the same work (*e.g.,* repairing flight control systems and engine parts) a certificated facility performs but are not inspected like certificated facilities. Of those 1,400 facilities, we identified 104 *foreign* non-certificated facilities—FAA had never inspected any of them."[13]

The IG discovered that there are no limitations to the amount of maintenance work non-certificated facilities can provide, and that these facilities are performing far more work than minor services, including much of the same type of work FAA-certificated repair stations perform, such as repairing parts used to measure airspeed, removing and replacing jet engines, and replacing flight control motors. Some of these non-certificated facilities are even performing critical preventative maintenance. The IG identified 21 domestic and foreign non-certificated facilities that performed maintenance critical to the airworthiness of the aircraft. Even more alarming is that the FAA was unaware of the critical work being performed at these facilities.[14]

Despite the fact that these facilities are performing safety-critical work, FAA oversight is practically nonexistent. In other words, these facilities are performing work pivotal to aviation safety with no guarantee that it is being done in line with FAA and air carrier standards. One inspector revealed that he learned of a repair station contracting out work to an automobile facility. Without having the ability to visit the facility, there was no way for this inspector to ensure that the work was being done according to regulations.

Furthermore, inspectors are discovering numerous incidents involving outsourcing of maintenance for critical functions or "specialized services," an independent rating the FAA grants to some certificated repair stations for specialized and safety-critical functions, such as non-destructive testing, specialized testing of some components, plating, machining and welding. Specialized services, like other maintenance, can and is being contracted out to non-certificated repair facilities. Although recent regulatory changes state that certificated repair stations cannot contract out a specialized service unless they were issued that rating and are required to approve that work for return to service, inspectors have consistently found that it is almost impossible to determine whether that work was done correctly, completely and in accordance with technical data and regulations. Inspectors do not have the time or

---

[11] Department of Transportation Inspector General, *Air Carriers' Use of Non-Certificated Repair Facilities,* AV–2006–031 (Washington, D.C.: December 15, 2005), p. 4.

[12] National Transportation Safety Board, *Loss of Pitch Control During Takeoff, Air Midwest Flight 5481, Raytheon (Beechcraft) 2000D, N233YV, Charlotte, North Carolina, January 8, 2003,* Aircraft Accident Report NTSB/AAR–04/01 (Washington, D.C.: 2004), p. x.

[13] Department of Transportation Inspector General, *Air Carriers' Use of Non-Certificated Repair Facilities,* AV–2006–031 (Washington, D.C.: December 15, 2005), p. 6.

[14] *Id.*, pp. 1–2.

budget capability to adequately perform surveillance on certificated repair stations, let alone evaluate and monitor subcontracting to non-certificated facilities.

It is obvious that there must be modifications made regarding air carriers' use of non-certificated repair facilities. PASS believes that the most effective way to correct the disparity between certificated and non-certificated repair facilities is for Congress to require that air carriers outsource maintenance work only to certificated repair stations, a standard that should apply to both domestic and international facilities. This is a feasible option that will ensure consistency and improved safety within the aviation industry.

Conclusion

It is clear that oversight of foreign repair stations needs serious attention and improvement. With the FAA anticipating an estimated 1 billion passengers per year by 2015, more inspectors are obviously needed in order to keep up with the rapid growth in the aviation industry. Since the FAA claims that it will be impossible for the inspector workforce to increase at the same rate the aviation industry is changing and expanding, it is moving toward a system-safety approach in which data, which has often been found to be incomplete or limited, will be the primary tool to determine risk. PASS believes that it is dangerous to rely heavily on a risk-based approach when it is obvious that our talented and skilled inspector workforce has kept the U.S. aviation system the safest in the world. In order to ensure continued safety within the aviation industry, there must be an adequate number of experienced and trained FAA inspectors in place with budgetary and management support to accomplish the agency's mission of safety oversight.

PASS and the inspector workforce we represent remain solely focused on ensuring the safety of this country's aviation system. We hope that Congress will seriously examine the conditions surrounding the oversight of foreign repair stations and recognize that major changes need to be made in order to protect this country's reputation as having the safest aviation system in the world.

Senator LOTT. Madame Chair?

Senator MCCASKILL. Yes, Senator Lott.

STATEMENT OF HON. TRENT LOTT, U.S. SENATOR FROM MISSISSIPPI

Senator LOTT. Thank you, Madame Chair and Chairman Rockefeller, for having the hearing.

Let me just say to the panel, I think this was a good panel, and you did a really good job. Most of the questions that would be asked, I think, you've commented on them, and answered them well.

But maybe I can just crystallize some of them, rather than giving a statement by asking just two or three questions, if you would make your answers short, I think that should take care of it.

First, what we're really worried about here and want to make sure of is safety and security, OK? I think airlines should have a right to have contract maintenance, but we need to make sure that it's done in an appropriate way. You know, I learned a long time ago when I get on planes, if the pilot doesn't want to fly, I don't want to fly. If the pilots want to fly, I usually feel pretty safe, because he's putting his life on the line, too. So, I think everybody wants this, the work done properly, we want safety, and we also now want security.

Now, Mr. Scovel, has your office uncovered any evidence that maintenance work performed by foreign repair stations is consistently less safe than work performed at domestic repair stations?

Mr. SCOVEL. Thank you, Senator Lott.

Our studies from 2003 and 2005 show us that the location where maintenance is performed is far less important than the oversight exercised by FAA to guarantee safety. In other words, we have not

found that repairs performed by overseas facilities are inherently less accurate or less complete than repairs performed by——

Senator LOTT. Well, do you believe that FAA has generally been responsive in correcting problems with foreign repair station oversight that's been identified by your office?

Mr. SCOVEL. Generally, yes. It has been very slow. We have found that the vehicles that FAA has devised to measure the maintenance performed by repair facilities, both in the U.S. and overseas, have been less than fully effective to give the agency the information it needs to make its safety oversight systems truly effective.

Senator LOTT. Ms. Gilligan, do you believe that restricting the ability of U.S. carriers from using foreign repair stations will improve safety?

Ms. GILLIGAN. Consistent with what the IG has just said, sir, our findings are the same—the work done at certificated repair stations meets all of the standards that we require.

Senator LOTT. And, Mr. Filler, you feel that your membership and the overall way that this is being handled, both the questions of safety and security are being adequately addressed?

Mr. FILLER. Yes, Senator, we do.

Senator LOTT. I think we've got to always be diligent. I think the FAA has got to continue to pursue their responsibilities. Yes, they probably are slow, I haven't found anything in the government that's not, but that's no excuse, because we're dealing with life or death and people's jobs here. And, I think it's also incumbent upon us to ask legitimate questions about the impact that this can have on the industry as a whole, and I'm always trying to look at it—not just from, you know, a regulator standpoint, or owners or managers, but also, you know, the workers, too.

So, I think they've done a good job, and I appreciate the opportunity to hear you, and thank you for allowing me to get out of order a little bit, there, Madame Chair.

Senator MCCASKILL. Thank you, Senator Lott.

I would normally defer to the Chairman of the Committee for questions, first, but he has sent me a note and asked me to go ahead, so I want to focus in, first, Mr. Scovel, on the difference between certified and non-certified foreign repair stations. And I think that's a really important distinction for us to talk about.

It is my understanding from your testimony and reading some of the background material in this area that the major carriers in the United States are utilizing non-certified, overseas repair facilities for all kinds of work. I mean, not just kicking the tires and checking the oil—but all kinds of work, is that correct?

Mr. SCOVEL. That's correct, Senator.

Senator MCCASKILL. OK, and so I was—as I direct my questions on this round of questioning, I am addressing now the non-certified repair stations. I don't want to talk about the certified repair stations, because that's a whole—that's apples and oranges. But we now have established that all of these carriers are using non-certified repair stations for major work—not just line maintenance—but major work.

Ms. Gilligan, how many of those non-certified foreign repair stations are there?

Ms. GILLIGAN. As you know, Senator, we don't keep a count of facilities that people may use that don't hold FAA certificates. Instead, we work through the airlines to determine that the airline has put in place the proper procedures, that they're providing the proper training and equipment and facilities to any facility that doesn't hold an FAA certificate.

Senator MCCASKILL. So, so there is no inspection of those facilities by FAA?

Ms. GILLIGAN. There is——

Senator MCCASKILL. Correct?

Ms. GILLIGAN. We have access to some, to third-party providers, but we don't have a scheduled plan for reviewing some of those operators—or some of those facilities.

Senator MCCASKILL. Any of those facilities, correct, Ms. Gilligan? You all do not certify, you do not inspect an unknown number of repair facilities that are providing major work on major domestic airline carriers, isn't that true?

Ms. GILLIGAN. It's correct, Senator, but that's because we are overseeing the carrier. And the carrier now has the responsibility—the carrier can pick a few different models. They can do the work internally. They can use a certificated repair station, and train that repair station personnel and provide the instructions to that repair station personnel, or they can hire certificated mechanics, for example, who hold an FAA certificate and provide that mechanic all of the materials and training and equipment that they need to perform the function. They can use any of those three models, and in the third, that last model, the individual holds an FAA certificate, but the company through which they may work, may not hold an FAA certificate.

Senator MCCASKILL. And do you know how many of those certified mechanics are working—how many there are right now that are working at non-certified facilities? Do you even—does FAA keep track of that?

Ms. GILLIGAN. No, ma'am. Well, no, we do keep track of everyone who holds a mechanics certificate, we issue those certificates. And so, then they have the authority to approve certain work, whatever it is they're qualified to do, and they do that under the air carriers program, which we do oversee through our inspectors.

Senator MCCASKILL. But you don't match up—the certified mechanics to the locations of the uncertified repair centers?

Ms. GILLIGAN. That's right.

Senator MCCASKILL. You can't, there's no—there's no place we can go and check to see how many certified mechanics there may be in any of these uncertified repair centers?

Ms. GILLIGAN. That's correct.

Senator MCCASKILL. And so, if, in fact, the certification process that we have to do here in the United States—if, in fact, we have a certification process here, do you think the certification process is important to safety?

Ms. GILLIGAN. Yes, ma'am, but airlines also use non-certificated facilities using certificated mechanics, here in the U.S., as well.

Senator MCCASKILL. Are they required to do any of the background checks, or any of the security checks that the certified facilities are?

Ms. GILLIGAN. The airline is required to do those checks for its own employees, but not for mechanics that they hire on contract.

Senator MCCASKILL. OK, well, then my question is, if we are certifying some facilities, but it's OK for the airlines to use any facility, regardless of whether it's certified, why are we certifying facilities?

Ms. GILLIGAN. Again, it's one of several options. When the carrier uses a facility that does not hold an FAA certificate, the carrier itself must be in place to provide quality control, to provide training, to provide all of the tools and equipment—everything that's needed for the work. And they hire, generally, then, a certificated mechanic, and they provide that infrastructure.

When they use a certificated repair station, while they do have to provide their training program, and their maintenance program to that repair station, they can take advantage of all of the facilities and equipment and everything else that the repair station already has under its approved certificate. So, it's just a matter of how it is that the carrier is going to make sure it is meeting the responsibility to have the work done in accordance with its maintenance program.

Senator MCCASKILL. OK, so in the instances where it's a non-certified repair station, this is more a situation where you are trusting that the airlines are going to perform at a level—at the same level that you require of the certified repair stations?

Ms. GILLIGAN. No, we see that the air carrier meets its standards. So, the repair station or the air carrier must meet——

Senator MCCASKILL. Well, how—?

Ms. GILLIGAN. I'm sorry, ma'am, if I'm confusing——

Senator MCCASKILL. I'm confused as, how do you know if you never go there, and you never look at them? How do you know that they are up to those standards, if you don't inspect them?

Ms. GILLIGAN. Because the airlines are continually analyzing the aircrafts themselves, and they are sharing that data with our inspectors. By regulation, we require that the carrier maintain a continuing analysis program, where they analyze every day how their aircraft are operating, and then they must address any discrepancies and our inspectors regularly are a part of that review process. So, we check the level of safety of the aircraft at the air carrier. And, because of the multple layers within the design and the manufacture and the maintenance of the aircraft, that provides us the opportunity to find discrepancies before they cause any kind of serious result.

Senator MCCASKILL. Well, my time's up, and I want to make sure the other Senators have a chance for a round of questioning. I'll revisit this on the next round.

Mr. FILLER. Senator, would you mind if make one clarifying comment about, about security? Because one of your questions was, if a carrier contracts with an individual mechanic to do line maintenance at an airport.

I didn't want you to be left with the impression that that person is not given a background check. If that mechanic has unescorted access privileges to the ramp of an airport, then he will have to have a background check and he will have to be appropriately badged and that will be done under the authority of the individual

airport operator. So it doesn't matter, in that situation, whether or not it's contracted or it's an air carrier employee. The focus is on, what kind of access does that individual need to the designated security areas of the airport.

Senator MCCASKILL. I appreciate that, Mr. Filler, but the question is, who is providing the oversight and accountability that that's occurring? Is it FAA or are we leaving it to someone else?

Thank you.

I believe, Senator Rockefeller, you're next.

Senator ROCKEFELLER. Thank you, Madame Chair.

The, I agree very much with the Chair's line of questioning and I have these comments. If there are—and I think there's some variance in the FAA in this—of the 3,865 FAA inspectors who monitor more than 5,000—this is, Peggy to you, Ms. Gilligan, to you——

Ms. GILLIGAN. Yes, sir.

Senator ROCKEFELLER.—5,000 repair stations used or owned by U.S. carriers worldwide, then we further know that 51 percent of those FAA inspectors are eligible to retire in 2007. If you look at U.S. Government retirement, some stay on, but most don't. It's a stressful life. And, so that immediately, in essence, cuts the 3,865 into half. So, my question is, how many inspectors will the FAA hire in 2007? You have no budget, so I want you to answer around that. And how many inspectors does the FAA expect to lose this year? And, we'll start with that.

Ms. GILLIGAN. OK. Thank you, Senator.

First, if I could comment on the retirement. While it is true, a number of our inspectors are eligible for retirement, we do have a higher age bracket workforce. It's because most of the, not most of them, all of them come to us after years of experience in the industry. So, they actually, oftentimes, come to us as a second career. And so, while they are relatively soon eligible for retirement, very, very few of them retire when they're first eligible. Our retirement rate has been consistent at between five and 6 percent a year for a number of years, the past 10 years. And we do a yearly employee attitude survey, where we ask about retirement plans.

Senator ROCKEFELLER. If I could interrupt for a second——

Ms. GILLIGAN. Sure.

Senator ROCKEFELLER.—I'd like to comment on that. I think there's a difference between jobs in general and jobs which involve saying, "No," or, "Do this differently." There is an energy level and, you know, there's simply a ferocity, a focus level, which changes. And I tell you this, say this by having carefully watched the FAA doing certification processes. It takes a younger, more ambitious, ferocious type of person to make sure that each and every one of the 13,000 parts that goes into a particular airplane is in my mind, to make sure that they're exactly right. Because they all have to be exactly right. Now, you could go into, you can go into an outsource repair station in some other country and have the same rules, and "I'll get my next round of drinking," and unnoticed, unnotified inspections and the rest of it.

But, I really, I really would—and I'd like the Inspector General to comment on this too—there's a difference in inspection, which is a highly technical, it's sort of like doing algorithms, I mean, it's a fugue, it's a work of love and precision.

And, it's also a matter of life and death. And I'd like to have each of you comment on the age factor with those retiring, as your statement that, well, we've got people who are old who have more experience, as opposed to what I said.

Ms. GILLIGAN. Certainly, sir. First of all, our data shows that, in our attitude survey we asked employees what you're retirement plans are and about 5 percent reported that they plan to retire within a year. So, we think that's consistent. And, you're absolutely right. These inspectors bring to this job a love of aviation safety that they've nurtured through their whole career and most of them come to FAA as, sort of, the pinnacle of what they'd hope to accomplish in the course of their careers. And, I believe that their age and experience is a valued asset that they bring to us.

Senator ROCKEFELLER. Without, interrupt again, but I want to get it to the IG before my time runs out.

Ms. GILLIGAN. I'm sorry.

Senator ROCKEFELLER. I voted for having pilots go from 60 to 65 years old. I think that is a world apart decision about age than, about not—you know, in a crisis these things become very important, but a lot of those are senior folks who are doing overseas flights, where it's avionics are automatic and all the rest of it. Inspecting parts, inspecting brakes, getting down on the ground in a hot Sierra Leone sun and looking for precisely that particular piece which could cause problems is a very different matter. Could you briefly comment on that?

And, Mr. Scovel, could you briefly comment on that?

Ms. GILLIGAN. Certainly. As I know you're well aware, our inspectors are not at the turning of every wrench and the inspection of every brake. They are there to oversee that the systems are being followed, that the people are trained, that the mechanics are, in fact, performing the function that they're supposed to perform.

Senator ROCKEFELLER. Now, this is not the data analysis, this is the——

Ms. GILLIGAN. I'm sorry.

Senator ROCKEFELLER.—this is the oversight analysis.

Ms. GILLIGAN. Yes, yes. Right.

Senator ROCKEFELLER. You referred to the data analysis.

Ms. GILLIGAN. The data analysis.

Senator ROCKEFELLER. Data, I'm sorry.

Ms. GILLIGAN. No, I'm misunderstanding your question, sir. I apologize.

Senator ROCKEFELLER. Well, I'll wait until my next round.

Ms. GILLIGAN. I'm so sorry.

Senator MCCASKILL. Senator Dorgan?

STATEMENT OF HON. BYRON L. DORGAN, U.S. SENATOR FROM NORTH DAKOTA

Senator DORGAN. Senator McCaskill, thank you very much. I confess I don't know as much about this issue as I would like and I apologize for being delayed at this hearing.

I want to ask a question, especially about overseas repair stations. I had written a piece about this a year and a half, 2 years ago about an American carrier, was according to some news reports flying empty 320 aircraft, Airbus 320s empty to El Salvador to do

their maintenance and then flying them back empty, as well. And I became curious about that and wondered what's the circumstance that would persuade someone to do that. And, of course, it is cost.

And I became further curious to find out what are the standards with respect to a repair station in El Salvador *versus* a repair station in this country. And, as I began to look at it, I discovered that at that point nearly half of the maintenance was outsourced, some of it out of the country. And, I mentioned, I guess I'll mention to carrier because it was in the news at the time, it was JetBlue. It was flying empty Airbus 320s to El Salvador for maintenance.

And so, I was wondering about the standards that exist at those stations and my understanding from that, I would ask the FAA whether it is the case, is that the folks at those repair stations are not required to have the same certification. Let me just read to you what I had learned at that point. Airplane mechanics in El Salvador are paid from $300 to $1,000 a month. About one-third of them have passed the FAA certification for airplanes mechanics that all U.S. mechanics are required to pass. Is that, is that the case or was it the case? Is it now the case?

Ms. GILLIGAN. Sir, we're very familiar with the facility in El Salvador. About, something less than 200 of the employees there hold FAA certificates. The remainder of the employees hold the certificate issued by the El Salvadorian Government. As Mr. Filler mentioned earlier, all countries that are members of the International Civil Aviation Organization do meet a common set of standards before they can issue certificates to, whether it's mechanics or pilots or anyone who operates in the system. So, all of the employees hold certifications and almost 200 of them hold FAA-issued certificates, which they are allowed to hold.

Senator DORGAN. And, is it the case that, as Mr. Roach testified, that when inspectors are permitted to make an inspection of an overseas repair station, they must give advance notice?

Ms. GILLIGAN. Generally, sir, we give advance notice even to domestic stations. These are, first of all, these are large complex organizations and it's not really very easy to hide something in at moment's notice.

We want to make sure when we send inspectors, whether it's domestically or internationally, that the people who they need to meet are there, that the records are available, that, in fact, our time is well spent on inspection and not on waiting and trying to bring all the details and the facts together. So it's common practice for us to give notice, even to domestic repair stations, as well. Yes, we do notify the foreign repair stations when we are coming, again, so that we have the right information available for the inspectors to be, to be able to accomplish the inspection.

Senator DORGAN. I don't want to suggest with my questions that there's diminished safety. I don't know the answer to this, but it seems to me strange. First of all, that we've rushed now to well over 60 percent of the maintenance for the airlines being contracted out, some of it offshore. It seems strange to me that a domestic airline would fly an empty jet to El Salvador for maintenance. It seems strange to me that the FAA, which would be required to evaluate the capabilities of that repair station would give them advance notice of when one is about to inspect. It seems to

me with almost every circumstance of oversight, giving someone advanced notice that you're coming gives you a very different impression when you come.

I've just been involved in this issue of China and, labor standards in China and the advanced notice given to Chinese manufacturing plants of when inspectors would show, which gives a very different picture of the plant the next day when the inspector shows.

So, I'm very troubled and concerned about this rush to outsource, about whether there is accountability for outsourcing. And, it seems to me that there, that many of the airlines are now rushing to subcontract their maintenance to others and that, at least in some cases with respect to foreign repair stations, in addition to the airline subcontracting their repair, you are subcontracting, effectively, your oversight by going to the civil aviation authorities in those countries for oversight. I, somehow, it doesn't, it looks to me like these are pieces to a puzzle that don't fit. If you want accountability and oversight that gives you a strong feeling that everyone is meeting the same standards.

Ms. GILLIGAN. If I may comment on your reference to contracting out the oversight. I think you're referring to those cases where we have a bilateral agreement with, and we have three of those in place right now with European countries. Before we enter that agreement, we evaluate the ability of that government and their inspectors to do those inspections on our behalf and we reach the determination that they have a level of confidence that we can accept. They then provide their inspection results to us and we make the decision whether or not the certificate holder can hold that certificate, whether we need to go in and spot check. And as the IG commented, we are increasing the amount of spot checking that we're doing.

As Mr. Filler testified earlier, we provide that same kind of oversight to over 1,200 repair stations in the U.S. that hold European certification. Our inspectors inspect on behalf of Europe, 1,200 repair stations in the U.S. Our inspectors provide those results to the European authorities and the European authorities determine whether or not U.S. entities can continue to hold the certificate. So, we do, we do for the European authorities, the same kind of inspections that we have them do for us, but ultimately, the decision on whether someone or a company keeps a certificate. We retain that for our certificate holders and the Europeans retain that for their certificate holders.

Senator DORGAN. But, if I might just finish two additional questions.

Ms. Gilligan, there are, as I understand it, 103 international field inspectors for nearly 700 repair stations and it seems to me to be terribly understaffed.

Second, when you look at the Department of Transportation Inspector General reports of, for example, December 2005. They found that non-certificated facilities operate without the same regulatory requirements as certificated repair stations, operate with no limit on the type or scope of work they perform.

I mean, I think, I have missed the comments of Senator McCaskill. I think I caught a bit of the flavor of her questions. I think

there's substantial evidence here that this rush to outsource maintenance is not accompanied by the same kind of oversight that ought to, that passengers ought to expect, that the Congress ought to insist upon, and that we had previously had when those repairs and maintenance were done by a carrier on the site. Just speaking, just for myself, I understand why someone would fly an empty plane to El Salvador. That's about finding cheap labor, I assume, if any. Does anybody else agree with that? You fly an empty Airbus to El Salvador and set up cheap labor for maintenance.

Mr. BARIMO. Yes, I'd probably elaborate that there's more, more involved in the decision than just the labor rate.

Senator DORGAN. Yes, the cost of the flight down and back with an empty plane.

Mr. BARIMO. And more importantly, the turn time and the quality of the aircraft produced. So, if the air carrier can trim 3 days off of a heavy check and get an airplane that is, in fact, more reliable than any of their competitor's aircraft, then it probably makes sense to go down there and do that. There's more that goes into the decision than just the labor rate.

Senator DORGAN. All right. It's a fair point. I would accept that people sitting around the table evaluating where we're going to outsource or how are we going to outsource maintenance would not just look at labor rates. It's a fair point you make. I think that, it seems to me, likely, that labor rates are a compelling part of that, especially when you take a look at what I just cited, with respect to the cost of maintenance in El Salvador.

I'm just picking out that issue because I happened to see it a couple of years ago and I followed it up to find out what is this about. I've taken more time than I needed to. Mr. Roach wanted to make a comment, if you wish.

Senator MCCASKILL. Go ahead, Mr. Roach.

Mr. ROACH. Yes, in reference to flying planes down to El Salvador, it was JetBlue, but the type of aircraft that you mentioned, if you recall. I don't know where these planes have been, these particular JetBlue have serviced, those are the planes that had these emergency landings, with the nose gear that would not operate properly.

Senator DORGAN. That was, actually, that plane was not a plane that was maintained in El Salvador. I did check on that, but that particular airplane was not one that was flown to El Salvador.

Mr. FILLER. Senator, if I could also.

Mr. ROACH. I'm not finished yet.

Mr. FILLER. I'm sorry.

Mr. ROACH. In addition, these surprise inspections, it is true that there are inspections in the United States that they forewarn people, but there are inspections where there are not people forewarned, they have surprise inspections in the United States, where outside the country they don't have them. So, there's a big difference there.

Senator DORGAN. Is that true, Ms. Gilligan?

Ms. GILLIGAN. I wouldn't call them surprise inspections. We do have people that are co-located more closely to some operators in the United States and they are there more on the day-to-day basis. And we do have the ability and the authority to do the same in a

foreign repair station if we have the need to. So, we do have the ability to, we do need to notify the State Department. When U.S. citizens travel on official business into another country, they do notify the embassy, but we can then go to the repair station. We do find it more useful, generally, to provide notice of when we're going to be there.

Senator MCCASKILL. Go ahead, Mr. Filler.

Mr. FILLER. Thank you, thank you, Madame Chair.

I would like to also add, with respect to the advance notice, the procedures that repair stations and any certificated company has to have, Senator, are very extensive. I mean, manuals and forms and procedures that, even if, and I've done many audits myself and I've done it for many, many years in and out of the FAA, and I can tell you that if an entity has 2 weeks notice, 3 weeks notice the FAA is coming, they're not going to be able to change their culture. They're not going to be able to, all of a sudden, follow their repair station quality manual if they weren't following it before. It's just too much to turn around. And, I think that overlay of oversight that the FAA provides, it doesn't make a difference from a safety perspective, whether you know the FAA is coming or not.

And then finally, with respect to looking at individual incidents or accidents, I would caution the Committee in using any specific accident analysis to prove the general rule. All accidents are, by nature, exceptions to the general rule. They're not the general rule and I can mention, and I don't think it advances the ball so I won't, but I can mention for every incident anybody can cite that occurred in a repair station, a contracted repair station, I can cite one that occurred inside an air carrier when maintenance people employed by the airline made a mistake that killed people. And, that's the reality of our business. Safety doesn't, no one's got a monopoly on safety, and nobody has a monopoly on complacency.

Thank you.

Senator MCCASKILL. I, let me, I've got a number of questions here, but let me start by saying I, the issue is not who is responsible for any individual accident, the issue is, is oversight and accountability the same, regardless of where an airplane is maintained and worked on. That's the issue.

And, we have established that we have certified and non-certified foreign repair stations. And, I'm trying to get at the difference between the two and the difference in the level of oversight and accountability for the non-certified repair stations, which we've already established are doing all the same kind of work as the certified repair stations. My understanding, in the first round of questioning, that in the instances of the use of non-certified repair stations, in these countries all over the world, that it is the airlines that have the responsibility for overseeing that, the level of training, background checks, and security that are going on at those non-certified foreign repair stations. Is that correct, Ms. Gilligan?

Ms. GILLIGAN. The airline is always responsible for the work that is being done on the aircraft and the airline is always responsible for determining that the aircraft or the product should be returned to service.

Senator MCCASKILL. But they are the only ones responsible at the non-certified facilities, isn't that correct?

Ms. GILLIGAN. But, then we're providing oversight of the carrier.

Senator MCCASKILL. OK.

Ms. GILLIGAN. We are, in fact, examining their processes and procedures that they are putting in place to meet their requirements.

Senator MCCASKILL. Then how do you explain the fact in the 2005 IG report, the IG found that there were six carriers that were looking, that were supposed to be overseeing work at non-certified foreign repair stations and that they had done this by phone?

Ms. GILLIGAN. We take those findings very seriously. It is because of those kinds of findings that we have put in place a number of corrective actions in response to the IG's recommendations. I believe that they made those findings, but we do know and the data shows, because the accident rate says that, in fact, we are following the standards. We and the airlines are following the safety standards. But please, make no mistake about it, those kinds of findings are very troubling to us and they are the reasons why we take steps to enhance our own oversight systems, as well.

Senator MCCASKILL. Well, you know, it comes back to the point I tried to make the last time, is that if certification is important and if we believe certification helps safety, then allowing the airlines to use facilities that aren't certified comes with a certain inherent risk. And, if in fact, the IG has found that they were overseeing non-certified facilities by phone, then clearly the FAA, at that point in time and we have not increased by any notable percentage the number of safety inspectors since that point in time. I think you can understand the concern. And, what was interesting in your testimony just recently, I know that American says they get surprise inspections at FAA-certified facilities all the time. Would you disagree with that statement?

Ms. GILLIGAN. No, as I commented, we do, we often are co-located and the American office that oversees American Airlines is actually co-located with the American facilities and our inspectors are there on a regular basis. That's absolutely accurate.

Senator MCCASKILL. And then you said, well, we can do it at foreign repair stations when we need to. Are you implying that somehow there is a more dire need to have spot inspections in the United States of America and not in foreign nations?

Ms. GILLIGAN. No ma'am, all I meant to indicate was that in some places we're co-located and it's easier, but there are 5,000 repair stations domestically and we don't, we are not co-located by all of them and we don't do the kinds of oversight that we do at American Airlines at every one of the repair stations. In most cases, we notify people because we are traveling to come to the repair station and so it's consistent here in the United States and in the repair stations that are overseas.

Senator MCCASKILL. Well, let's assume that we think spot inspections are important or you wouldn't be doing them in American Airlines, and let's assume that the reason you're not doing them at foreign repair stations is because of travel time and convenience. Wouldn't it be certainly appropriate and, in fact, I think you're policies would embrace the idea, that the carrier that is using that foreign repair station would pay for the additional time that inspec-

tor would stay or pay for, let's say they arrive and the paperwork's not there.

By the way, I would think that would be something you'd want to know, if they had the paperwork onsite and available for inspection at any time.

But, let's assume that an inspector traveled to a foreign repair station, got there, the right people weren't there, the right paperwork wasn't there. Isn't that airline responsible for paying the cost for that inspector to stay over as long as it takes to make sure that that facility is up to the same standards that we require of American-certified repair facilities?

Ms. GILLIGAN. To date——

Senator MCCASKILL. That is, U.S.A.-certified repair facilities.

Ms. GILLIGAN. Right, to date we have charged fees to the repair station itself, when we do certification activities, when we issue their first certificate, when we do their yearly or biannual reviews. We have never charged anyone for the surveillance, that's the safety oversight function, because we believe that that's inherently a public good and it is something that the FAA, because we don't want to be limited in the amount of that kind of oversight we can perform, so we don't want to be limited by having people pay fees. To date, we have not, we have not charged fees to the airlines. We'd have to look at doing that, but we do charge fees to the repair stations themselves for our inspectors who are doing that certification work.

Senator MCCASKILL. OK, for the repair stations, I mean, charge them for the extra days that are necessary to stay there. Is there any reason why that wouldn't be possible in order to have spot inspections in foreign repair facilities just like we have in the United States?

Ms. GILLIGAN. Again, as a matter of policy, we have not wanted to charge fees for the safety oversight. We never wanted there to be any question that we didn't provide oversight because someone didn't pay a fee. So, we have always done that as part of our inherent governmental responsibility.

Senator MCCASKILL. Well, I'm confused then, because when I offered my amendment in Committee that brought about this hearing, one part of my amendment would require the payment to the FAA for the cost of us having to travel. Since cost is a factor for these airlines, it certainly, I think, the notion that the American people should not have to underwrite them going to another location for lower costs. I don't think that most taxpayers would want to foot the bill for these airlines going to another country.

When I, the comment that FAA provided in response to the draft of that amendment, said that currently, foreign repair stations that are, do hold certificates, must pay for all costs associated with FAA inspector oversight, including travel, salary, and benefits.

Ms. GILLIGAN. Yes, ma'am. And unfortunately, that is correct, but not complete. It is correct that all those costs are paid when we do what we refer to as certification activities, not when we do what we call surveillance activities. And, I apologize because our staff in responding to the question, I believe, split the hair a little too closely. They do pay for all of the activities that allow a repair station to get a certificate. That includes the personnel cost and

benefits for our inspectors, as well as their travel. But, when our inspectors are doing surveillance inspection, what we call safety inspections, foreign repair stations do not pay fees for that part of our work. Again, because we never wanted there to be any confusion that we were limited in the amount of oversight we could do based on the amount of fees that were paid. So, I apologize that we were, again I think, they were accurate in the way we use our terminology, but I believe it was confusing and I apologize for that.

Senator MCCASKILL. So, if you take your airplanes to foreign countries, you are not going to have spot inspections and you can enjoy the lower costs of labor in those countries and the American public is, in fact, underwriting the cost of that outsourcing. Correct?

Ms. GILLIGAN. The, well, the American public is paying for FAA's continued oversight of any of the U.S. aircraft that are operated around the world.

Senator MCCASKILL. They're paying the extra, they are paying the extra amount of money that it's costing the FAA to do whatever, in fact, the amount that you have collected *versus* the amount that has been spent. You have collected some, I guess, what you're now saying today, for the certification process.

Ms. GILLIGAN. That's correct. That's right.

Senator MCCASKILL. But, the taxpayers are actually footing the bill for the extra amount the government is having to spend in order for these carriers to enjoy lower labor costs in other countries. Isn't that correct, Ms. Gilligan?

Ms. GILLIGAN. The inspectors are providing oversight at those facilities for whatever reasons that the carriers choose to use them. And in some cases, as Mr. Barimo has acknowledged, that the element of the cost of the labor is a piece of it. From the FAA perspective, our inspectors, whether they are located internationally or located domestically, we are doing our oversight to determine that U.S.-registered aircraft meet the safety standards that our regulations require, wherever those aircraft operate in the world. And, that's how we have viewed it, that it's the same level of oversight necessary, wherever that aircraft is operated.

Senator MCCASKILL. I think the point, obviously, I think you understand, and that is, the taxpayers are paying extra for safety in order for the airlines to enjoy lower labor costs. And, I would, well, my time's up and why don't you go ahead, Senator Rockefeller?

Senator ROCKEFELLER. Thank you, Madame Chair.

I am going right back to where I left off. The idea of unannounced inspections is, in every single respect, offensive to me. We have a lot of coal mines in West Virginia. Ninety-nine percent of West Virginians have never been in a coal mine, except if they happen to work there because they're not allowed in there. First Lady Eleanor Roosevelt did it, but almost nobody does. But, Governors and Senators can do that, so I've been in a lot of coal mines and it is just a fact of life, it's a fact of human nature, it's a fact of, in that case, corporate policy, and this case may be different or may be the same, that everything seems to look better. It's what they call rock dusting. The mine looks clean, everything is orderly. I've never ever, as either a Governor or a Senator, ever been down

a coal mine when it just doesn't look absolutely terrific, for me because I'm heavily involved in energy issues.

Now, I recognize, and I don't say this to denigrate you in any way, shape, or form, but you're under the restrictions of the Office of Management and Budget on how you answer questions. And, I do understand that and the audience, I'm sure, understands that. You do not have the freedom, maybe, to answer in the way that you choose to. And I, again, I don't criticize you for that. But, I do criticize you're defense and other's defense of, "it doesn't make any difference if it's pre-announced or not." I think it makes all the difference in the world, and if people were to come in and find, let's say, somebody missing because there was a particular phase of an inspection, and then so be that. All right, so you don't get a perfect everybody lined up ready to, you know, show you what they're wares are. It is a wrong thing to do. It is a wrong thing to do. It is a more expensive thing to do, to announce it, but it's a wrong thing to do for air safety. I believe that with every fiber in my body.

Along with Senator McCaskill, I chair this Subcommittee and I intend to follow through on that. I just, I feel so strongly about it that I can not tell you.

Second, the whole question of, that was brought up by the union with respect to, and I just want to get clear on this, of people not being able to speak English. And then your answer was, "Well, we can, we can do that by hands-on training." Any Senator, any busy executive, you, anybody who has complex problems before them, not only has to have an explanation, but they have to, probably have to have a binder, which they read on the trip over to remind them of that explanation. And so, the concept of actually people just learning things through hands-on training, that is assuming that both parties speak a common language and that both parties are qualified in every respect, is one that I also feel very strongly about. And, I'm not asking you, particularly, to comment on that. I am asking Mr. Scovel to comment on it.

Mr. SCOVEL. Thank you, Senator. I must say we do not have research conducted by my office on that specific point. However, I would have to acknowledge the common sense in your statement that when a mechanic in a foreign country cannot speak English, and his or her instruction manuals are printed in that language and that language only, that puts the quality of the maintenance that he or she will provide at risk.

Senator ROCKEFELLER. Anybody else want to comment?

Mr. FILLER. Yes, Senator. I'd like to. The regulations require that persons that are supervising, inspecting, and approving for returns of service have to read, write, and understand the English language. There is no independent requirement to speak the English language. In the foreign——

Senator ROCKEFELLER. Regulations require.

Mr. FILLER. Yes, sir.

Senator ROCKEFELLER. Now, that's an interesting phrase, isn't it? How many times have I heard that? What does that have to do with follow-up? This is where the question of oversight, either——

Mr. FILLER. I thought you had asked about——

Senator ROCKEFELLER. I am.

Mr. FILLER.—speaking English.

Senator ROCKEFELLER. But, you helped me to expand my question.

Mr. FILLER. OK. I think it's relevant that individuals are required to read, write, and understand the English language in a foreign repair station, as well as in a U.S. repair station. But, there is no requirement that they have to speak it. In a foreign location, the technicians often are looking at manuals that have been, or work cards that have been translated into their native language. But, at the same time, FAA requirements are that the records must also be translated into English so they can be evaluated by FAA inspectors.

Senator ROCKEFELLER. Please.

Mr. ROACH. What he said was a little tricky. He said the people who signed the book have to have speak English. The people who do the work are not required to speak or write English. The people who are actually hands- on, the people who work it, the person who comes out after all the work is done, who's working at that repair station that has to sign the book because that individual has to be able to read and write English. But, the person actually tightening the screws and changing things, they don't have to read or write English to do the work. There's no certificate to my understanding, people who are working on aircraft, they're not required to have any particular certificate. Only the person who's over, who has to sign off the log book, which could be the person for an aircraft or a number of aircraft.

Senator ROCKEFELLER. Accepting what you say for the moment, Ms. Gilligan, would you care to comment on that and Mr. Scovel would you care to comment on that. And I beg the indulgence of the Chair.

Ms. GILLIGAN. Yes, Senator. Actually, everything that both of these gentlemen have said is accurate. Individuals can work on aircraft that do not have to hold a particular certificate. They must then be under the supervision and overseen by people who hold proper certificates and authorizations. Whoever holds the certificate has to be able to read, understand, read and understand English, as Mr. Filler described. And, that has been the check and balance in the system. It is true that people who work on aircraft will have work cards, their instruction cards may be translated into whatever is their native language, but whoever's overseeing that work is fluent in both their language, both that native language and in English, so as to insure that the records are properly maintained to demonstrate the work that has been done.

Senator ROCKEFELLER. And there's always somebody with that person during the inspection?

Ms. GILLIGAN. There is. The requirements for the work to be overseen by someone who's authorized to do that.

Senator ROCKEFELLER. That's not my question.

Ms. GILLIGAN. I, they are monitoring the work. There may be more than one person doing work at a time. They may not be——

Senator ROCKEFELLER. Video or——

Ms. GILLIGAN. It's not a one to one, it may not be a one to one relationship, but the person who's going to sign that work off, who takes that responsibility very seriously is monitoring the work and

determines if the work has been properly accomplished in accordance with the instruction before signing the authorization for that.

Senator ROCKEFELLER. We'll come back to you Mr. Roach in a moment.

Let me just say as a matter of philosophy that I think, I used the word fugue a moment ago, which probably seemed a bit bizarre—I'm a baroque music fan—but I, to me an aircraft, and I mentioned the 13,000 parts, which are individually accepted part by part before a first model of the five that have to be approved of a new aircraft are allowed to proceed. I consider the repair and maintenance work, not on perfectly new pieces of metal, but on potentially frayed pieces of metal and to what degree frayed, to a dangerous degree, not to a dangerous degree. This is a very subtle science, it's an art form. It's not something which comes from the bosom of one's heart to do a good job, it comes from an absolute knowledge and determination under 110 degree sun, presumably we know that's a little unfair, but sometimes inside a shed, it can be that way too, people can get tired and you have to be just as good, like a receptionist at any of our offices, at 6 o'clock in the evening as you do at 9 o'clock in the morning. I think that, that's my philosophy of repair and maintenance. Incredibly delicate, incredibly complicated, and incredibly, the kind of thing you do not make a mistake upon.

Mr. Scovel?

Mr. SCOVEL. I would concur, sir. If I may return to one of your earlier questions on FAA certification of mechanics working at U.S. stations *versus* foreign stations. It is our understanding that, under FAA requirements, supervisory and inspection personnel at a domestic, FAA-certificated repair station must be certificated by FAA.

However, for a foreign repair station certificated by FAA, no personnel must hold a true FAA certificate. Personnel working on aircraft are required to fulfill certain training or experience requirements, such as 18 months of practical experience in work being performed, but they need not hold the actual FAA certificate. I think that is an important difference to note for the record.

Senator ROCKEFELLER. All right. Mr. Roach, to you and then final from my point of view, Madame Chair to you, Ms. Gilligan.

Ms. GILLIGAN. Thank you, sir.

Senator ROCKEFELLER. Did you get, I think you cared to comment.

Mr. ROACH. Just on the, the language situation. The manuals that are translated in those foreign repair stations are not translated by the manufacturer. They are translated by the foreign repair station or the carrier and so the manuals that we work on domestically are the manuals that have been prepared by the manufacturer of that particular aircraft.

Senator ROCKEFELLER. Are you suggesting by that that they're more in pictorial form?

Mr. ROACH. No, I'm saying that the manuals, the manuals are prepared by the manufacturer for the maintenance of that aircraft, Boeing or Airbus whoever's handling, let's say Boeing. And those, Boeing does not translate that into any particular language, which means that it goes to another party, who then translate what Boeing meant by that manual to somebody else who doesn't necessarily

have the training and skills in maintenance because they're not required to. Only the person who oversees or supervises work, who does not have to be on-sight. They could be in a room, which happens quite frequently, they could be in a room someplace when they're told this particular work has been completed, to come out and look at it. So your people out there who do not speak English, who are reading manuals that have been translated third hand, who are performing this particular work. And, as you indicated, there are thousands and thousands of parts that are very important to the safety of that, to the airworthiness of that aircraft and so we think that reflects on the safety of the aircraft.

Senator ROCKEFELLER. I thank you, sir.

Ms. Gilligan, please understand as I ask you, I seem to be peppering you with questions and I apologize, but one thing I really do understand is that all administrations, not just the present one, but the previous ones have vastly underfunded the Federal Aviation Administration. I mean, you look at our attendance here and you get a Congressional response. So that I, I understand, I mean, there's nothing you can do about funds. You can't complain about funds and you need funds—and I know that, and I know that you know that.

So, my question for your last response on this is that I recognize you are very funds short and we've only partly helped you with the whole digital air traffic control system yet to build.

Ms. GILLIGAN. Thank you, sir. And if I, actually, if I may comment on the resource issue. Actually, I'm here to thank the Congress because, in fact, for this year 2007 under the Continuing Resolution and for last year, 2006, we actually received in the safety program increases above the Presidential request. And we appreciate those and we understand that those are to make up for some short-falls, which we were able to demonstrate had occurred and, in fact, we took reductions in our workforce back in the year 2005. So, we are actually quite appreciative of Congress's understanding of the continued need to invest in the safety infrastructure that FAA needs to put in place. And, we appreciate that.

I did want to comment on the Inspector General's comment about, at foreign-located repair stations it is true we do not require people to hold an FAA certificate, but our inspectors, when they are certificating that facility, make a finding that there are people in that facility that meet all of our standards in order to serve in that function. So, we do fill that gap. We don't require them to hold the FAA certificate, but we make a finding that they are competent and qualified to meet those same requirements.

But, thank you for giving me the opportunity on the resource question because, in fact, Congress has been extremely supportive of the need for us to continue to build our safety infrastructure and we appreciate that.

Senator ROCKEFELLER. And that must continue.

And I've doubled my time and I appreciate it, Madame Chair.

Senator MCCASKILL. Thank you, Senator Rockefeller.

I, unfortunately, have to be on the Chair to preside at 4:30, so we only have 10 minutes. So, I will have questions that I will not have time to get to in the next 10 minutes and I will ask those of you in writing to add to the record. And, I will appreciate if people

can keep their answers as brief as possible so I can try to get to as many of them as possible before we have to adjourn.

I think after 9/11 in this country, there was an acceptance of the responsibility that the traveling passenger has as to what they have to go through to maintain safety and security on an airplane. My mother has two knee replacements, I have one. We accept the fact that we have to be personally wanded every time we fly. I think the American public is assuming that we are making the same kind of requirements of the mechanics that are working on these airplanes.

And, I know this, that in the IG's report of February 2003, that during the investigation of the IG, you actually found a staff senior aircraft technician at a foreign repair station was a member of al-Qaeda. And, that your investigation revealed that that aircraft technician had been photographing the U.S. aircraft as potential targets for a terrorist attack. Have I accurately portrayed your report in that regard, Mr. Scovel?

Mr. SCOVEL. Yes, although, truly Senator, modesty compels me to say that it was not our investigation that found the al-Qaeda plant at that repair station. It was other law enforcement authorities. We note that in our report as an example of security vulnerabilities.

Senator MCCASKILL. It was, do you know whether that foreign repair station was certified or non-certified?

Mr. SCOVEL. It was certified, Senator.

Senator MCCASKILL. OK. Let me ask, in 2003, Congress made some requirements of TSA in connection with FAA to, in fact, complete a rule imposing security standards on foreign and domestic repair stations and it was required that this rule be done by August of 2004. And, then those security audits of foreign stations were to be completed 18 months after the regulations were finalized. Am I correct that, to date, not even a proposed rule has been issued, let alone a final rule and that the agencies are now 30 months delinquent in meeting this Congressional mandate?

Ms. GILLIGAN. It is true, Senator. The TSA has not issued a proposed rule for, to meet those security requirements.

Senator MCCASKILL. I understand TSA is the lead agency, but I believe that there was, inherent in the legislation, a request that you work with its counterpart, your counterpart in TSA to move these rules forward. Have, in fact, you all, do you have any written correspondence or anything indicating that you have been pushing TSA to, to come out with rules concerning security at repair stations, both foreign and domestic?

Ms. GILLIGAN. I don't know that there's a written record. There certainly have been discussions of the language in the legislation and of the requirement that TSA must issue their regulations and then make audit findings so that FAA could take the next step.

Senator MCCASKILL. And, it's my understanding that your report, Mr. Scovel, not only dealt with background checks as a security vulnerability in foreign repair stations, but you also talked about access to the airport, that was, that you observed by vending machine personnel and other contract personnel. And, that you had pictures in your report of gaps in sensing, of failure to secure the perimeter. Could you briefly summarize the various security lapses

that you witnessed at these, and then, and these are actually, I assume, the certified repair stations or were these also non-certified?

Mr. SCOVEL. They were certified, Senator. I must say, however, that under Department rules, our report was not classified in the DOD sense but was marked as Sensitive Security Information. For that reason, I am not allowed to discuss all the details that you may be interested in on the record in an open hearing. However, I would be happy to discuss those with you and your staff in private.

Senator MCCASKILL. I'd be anxious to visit with you about that. I think that this security issue is a major issue here, particularly in light of the fact that we've had reports that on the non-certified facilities, some of the oversight being provided by the airlines was done by telephone. I don't think that's the kind of oversight that's going to reassure the American public that we're doing all that we can do to make these airplanes secure and safe for travel.

The 2004 report, FAA report to Congress states that FAA is further revising the repair station rules to update and modernize repair station ratings, and add a quality assurance program to complete the quality system requirements for both foreign and domestic repair stations.

The notice for the proposed rulemaking for this effort is scheduled for publication by the end of the third quarter in Fiscal Year 2005. Was this notice of proposed rulemaking ever issued?

Ms. GILLIGAN. Yes, I'm sorry, Senator, I just had to check.

We did issue that proposal, and we have received comments, we are disposing of those comments. So we'll be moving to final rule.

Senator MCCASKILL. And that was—it was supposed to be done by the end of the third quarter 2 years ago.

Ms. GILLIGAN. That was the notice that was to be issued at that time. I can get you the specific schedule. I don't recall if we met that third quarter date, but it has been out for comment, the comment period has closed, and we are now reviewing those comments, and moving to final rule.

Senator MCCASKILL. OK. Well, I think we've talked about the accountability in terms of a security audit that Congress mandated that has—they haven't begun to occur. And, we've talked about certified *versus* non-certified, and what kind of—we've talked about spot inspections, and not spot inspections, I guess I would just ask for comments from any of the witnesses as we close.

There's clearly—there are two standards in terms of repair stations. You have the standard that is here in certified-FAA repair stations in the United States of America, we have spot inspections, you have the certified mechanics, you have oversight by the FAA.

And then you have a whole lot of repair stations that don't have that same level of scrutiny and that same level of oversight. And I would, since we now know that the majority of the maintenance work is now being done in those that have the lesser standards, I would like any of you who are comfortable and want to comment on this double standard to explain to the American traveling public why we would ever want a double standard as it relates to the maintenance of our aircraft, and therefore the safety and security of the aircraft?

Mr. BARIMO. I'm glad to address it from the airline perspective—there is no double standard. Airlines maintain airplanes to a certain standard, and that's universal across the board.

So, I want to go back, even to the beginning of this hearing, where we talked about the scope of work being done by non-certificated entities. And what we're talking about is a group of licensed A&P mechanics who are working under the authority of the airline. Generally doing low-level, line types of checks. So, functional checks, servicing the airplane, things like that—not heavy maintenance. In every case, when ATA members are using foreign repair stations for heavy maintenance, it is certificated, Part 145 repair stations.

So, I understand there were some deficiencies identified in the IG's report, I would consider those isolated events, and there are regulations that require carriers to manage that properly, and if—in certain cases—it wasn't managed properly, then there's a mechanism to go deal with that.

Senator MCCASKILL. And I would say—we've got 4 minutes. So, I don't know how many of you want to comment—how many of you want to comment, raise your hand? OK, that gives you each about a minute.

Mr. Brantley?

Mr. BRANTLEY. I believe the dual standard that we have is in the oversight that's provided by the FAA.

Senator MCCASKILL. Right.

Mr. BRANTLEY. With regard to these foreign repair stations, oversight of the actual work performed is a responsibility of an inspector in a certificate management office, in the country here. So, for whatever airline they're tasked with providing oversight for, that would be their job to ensure that that work is performed properly. And, in order to do that, they are required to give 60 to 90 days notice—this isn't a short lead time we're talking about—60 to 90 days to even be able to go and do an inspection. And there's no guarantee that when that 90 days is up and they get there, there's still an airplane in there having maintenance done, that they're responsible for.

So, it truly is a nightmare for an inspector to try to do the oversight that they're charged with doing.

Senator MCCASKILL. Mr. Filler?

Mr. FILLER. Senator McCaskill, thank you.

I just would like to also emphasize the international component to a lot of the issues that we're discussing here today. ICAO exists because some very smart people over 60 years ago thought that we needed international safety standards, that would apply to the members of the international community. So, all of the things that we're here discussing today are all the subject of ICAO standards, including security and perimeter checks, and background checks. And there is some U.S. oversight of that, and my understanding is, TSA does do—as Mr. Barimo pointed out—security audits of some foreign locations. ICAO also does security audits to ensure compliance with ICAO standards.

There's a practical reason, as well, why foreign repair station people that might have to be certificated if they worked here, do not have to hold individual A&P certificates. Some of these facili-

ties, for example, one of our very prominent members, has 35 repair station certificates, from 35 countries. That counts the E.U. as only one of those 35.

If every one of those countries required their technicians to be certificated individually, under the regulations of that local authority as the State of Registry, it could get out of hand pretty quickly.

I think, as Ms. Gilligan pointed out, the FAA has a performance-based rule, they evaluate these people, they make sure they can do their job, and if they're technically not up to the regulatory standard, then the FAA will say, "Sorry, you need to put somebody else in place."

So, I think the oversight issue you raise is a legitimate issue, but I don't think the traveling public, or this Committee, should be concerned that there's a lower level of safety by the work performed by work stations in general, or by foreign repair stations *versus* domestic repair stations. Thank you.

Senator MCCASKILL. I've got time for, half a minute, if anyone else wants to comment.

Mr. SCOVEL. Half a minute, Senator, if I may.

Our work has shown that non-certificated repair facilities located overseas are at the far end of the oversight spectrum. FAA oversight of those facilities is very thin, if not non-existent in most cases.

While safety has not yet been compromised in the form of an accident, we must question the quality of the oversight and determine what is still needed. We have urged FAA in our report, and in our testimony today, to directly confront the question of whether the current system should continue, or whether FAA should limit the type and scope of maintenance that is allowed to be performed at non-certificated facilities.

Mr. ROACH. I have 15 seconds, Senator.

We have a bargain—the machinists union has a bargain relationship with every major carrier in this country, with the exception of Delta and American. And, in our discussions with the CEOs and CFOs, nobody's ever said to us, there can be work done better overseas, it's always been a cost factor.

So, when somebody alluded to the fact that maybe something's happening overseas that's not happening here, we've never heard that from any major carrier, that, it's always been a cost factor, because they're getting the work done a lot cheaper, without benefits to workers, without any concern about human rights or anything of dignity in these other countries. Thank you.

Senator MCCASKILL. Let me close by saying, I know there was reference made to an isolated incident. And, I understand there is a data-related look at performance of these airlines from a mechanical standpoint. But everyone should keep in mind, in terms of security that, what changed this nation, I think, could be characterized as an isolated incident.

And I appreciate all of your attendance today, and the testimony you've given, and the hearing is adjourned.

[Whereupon, at 4:30 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF HON. JOHN D. ROCKEFELLER IV,
U.S. SENATOR FROM WEST VIRGINIA

The oversight of aviation safety is one of this Subcommittee's primary responsibilities. The government has no more important role in making sure that our Nation's aviation system remains the safest in the world.

I want to thank Senator McCaskill for requesting this hearing and aggressively seeking to improve our nation' aviation safety. And, I would like to thank our other witnesses for coming today as well.

I have a few brief remarks and then will ask other Senators if they have opening statements.

First, I want to state that I firmly believe that the United States has the safest and best air system in the world. I do not want to give anyone the impression that I believe it is unsafe to fly.

But, the aviation industry continues to change rapidly in light of unrelenting competitive pressures. I am concerned that the quickly changing nature of the commercial aviation industry coupled with the FAA's declining level of resources threatens the agency's ability to maintain the necessary level of oversight of air carriers, foreign repair stations, and upgrade the existing safety infrastructure at our airports.

Although I understand why many commercial airlines are contracting out an increasing amount of their maintenance work, I am concerned that this work is being sent to foreign countries where governmental oversight from both the home nation and FAA may be weak or non-existent.

Compounding the industry's trend to outsource much of its significant maintenance work is the inability of the FAA to certify and closely monitor an ever increasing number of foreign repair stations. I do not question the agency's commitment to safety. I believe that this is due mainly to a lack of resources.

I am deeply concerned that the FAA is losing a number of its most senior safety inspectors and does not have the ability to replace all of them. This Committee, as it begins evaluating the future of the FAA, should be spending a considerable amount of its time making sure that the agency is able to meet its foremost mission—the safety of the traveling public.

Again, I want to thank Senator McCaskill for her leadership on this issue.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN D. ROCKEFELLER IV TO
HON. CALVIN L. SCOVEL III

Question. How many inspectors will the FAA hire in 2007? How many inspectors does the FAA expect to lose this year? Given that these are highly skilled positions, are there enough well trained individuals who the FAA could hire to be inspectors if the Agency has the resources?

Answer. FAA expects to hire approximately 290 aviation safety inspectors in FY 2007. During the same period, FAA expects to lose approximately 200 aviation safety inspectors, which would result in a net increase of 90 inspectors in FY 2007. Congress approved additional funding for these 90 inspectors in FY 2007, which was an increase over FY 2006 staffing levels.

According to FAA's May 2007 Aviation Safety Workforce Plan, the Agency maintains a pool of about 5,000 qualified inspector applicants that can be hired quickly. These applicants have specialties in avionics, maintenance and operations. We do not know whether FAA's statements are valid since we have not performed a detailed evaluation in this area. However, as FAA recognizes in its workforce plan, the Agency faces the challenge of hiring people with the right skills, such as risk-based decisionmaking and data analyses. These skills are needed for inspectors to work effectively in the current aviation environment and with FAA's risk-based oversight systems.

We have identified other shortcomings in FAA's goals to achieve a well-trained inspector workforce. For example, according to its workforce plan, in FY 2007:

- FAA's goal is to hire only 10 percent of new staff with the competencies needed to perform inspections using risk-based systems; and, the new staff only needs to possess two of the nine competencies that are needed.
- FAA plans to train a minimum of 30 percent of existing inspectors in only *one course* in risk-based competencies.

Using risk-based oversight systems is a foundational part of FAA's plan to meet future oversight challenges. Therefore, in our view, the Agency needs to step up its hiring and training efforts if it is to maintain a sufficient number of inspectors with the right skill set to provide oversight of a dynamic aviation industry.

Supplemental Information

According to our analyses of FAA records, as of July 21, 2007, FAA had hired 170 inspectors; but, 190 inspectors had retired. FAA will need to work aggressively to meet its goal to hire 290 inspectors by September 30, 2007. According to its workforce plan, FAA does most of its hiring during the last two quarters of the fiscal year because of funding delays.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV TO MARGARET GILLIGAN

Question 1. How many inspectors will the FAA hire in 2007? How many inspectors does the FAA expect to lose this year? Given that these are highly skilled positions, are there enough well trained individuals who the FAA could hire to be inspectors if the Agency had the resources?

Answer. At the end of Fiscal Year 2007 FAA is projected to have 3,740 ASIs compared to 3,662 at the end of Fiscal Year 2006. This is an increase of 78 new hires which will support new certification and surveillance activities related to the growth of existing operators and a backfill of 185 positions lost through attrition.

An additional 81 ASIs are projected to be hired in FY 2008. This increase will support new safety initiatives along with continued operational safety (core business) to our customers. The increase will also support continuation of the transition of air carriers to a system safety approach to oversight.

In order to ensure an adequate number of ASIs, FAA has developed a Human Capital Plan that is a proactive approach to succession planning for retiring inspectors. This plan takes into account various demographic and geographical data and identifies the appropriate skill sets required to perform the job. FAA has a centralized applicant pool with a registry of approximately 3,843 qualified applicants that we use to fill our vacancies.

Question 2. I understand that the FAA is shifting away from a safety oversight system based on individual inspector's skills and knowledge to a more risk assessment approach based on data evaluation. No matter how sophisticated FAA's risk assessment approach becomes in identifying high priority sites to monitor, is there any real substitute to a human inspection?

Answer. There will always be a need for inspectors to perform onsite inspections. What's important is that we establish what to inspect based on an assessment of risk. The Air Transportation Oversight System (ATOS) provides automated tools that analyze the data collected by our inspectors and point them toward elements of a carrier's system that might present a risk. In this way, we ensure the most efficient use of our safety oversight resources.

Question 3. According to Mr. Brantley's testimony, insufficient funding for travel obviously has impacted the FAA's ability to perform oversight of foreign repair stations. Mr. Brantley asserts that increasingly FAA inspections of major repair stations that perform heavy maintenance work have been canceled or cut short due to lack of funds. According to inspectors in the field, the inspection process has become primarily budget driven rather than motivated by safety. Please comment on this statement. Has the FAA cut down on the inspection of heavy maintenance work?

Answer. The FAA does not agree that inspections of major repair stations that perform heavy maintenance have been canceled due to lack of travel funds.

In FY 2006 and 2007, Congress has provided substantial budget increases to allow us to hire additional inspectors. The cost of hiring an inspector includes the personnel costs and benefits required, as well as the costs for training and travel to make the inspector competent and effective. The FAA ensures that critical safety travel resources are available for inspectors to perform their safety oversight responsibilities. The FAA is not aware of any travel canceled due to funding issues.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV TO MARSHALL S. FILLER

Question 1. Representatives from your organization have stated in the press that the oversight of facilities in places such as Britain and Portugal was often more rigorous than in the United States. I would expect the European Joint Aviation Authority to have a rigorous safety system in place; but I am concerned that other countries whose aviation governance systems are not as mature may not be as thorough.

Answer. All 189 member countries are required to follow International Civil Aviation Organization (ICAO) safety and security standards and virtually all foreign repair stations are located in Category 1 countries (*i.e.,* countries that the FAA has found to be in compliance with ICAO standards.) More importantly, the FAA (not the foreign authority) is responsible for monitoring compliance with 14 CFR part 145.

In those cases where a maintenance bilateral agreement exists (such as France, Germany, Ireland and soon to be expanded to other members of the E.U.), the FAA does rely on findings made by the foreign safety inspectors just as the foreign aviation authorities rely on the FAA's oversight findings of U.S. facilities to ensure compliance with the foreign government's requirements.

However, in most cases, maintenance on U.S.-registered aircraft and related components is NOT governed by a bilateral agreement. Therefore, FAA inspectors personally oversee those facilities, wherever they are located. A foreign repair station's compliance with part 145 is ensured through normal surveillance and frequent recertification inspections, an activity that is not required domestically. ARSA urges the Congress to ensure that the FAA has sufficient funding to conduct surveillance activities at all repair stations, wherever they are located.

Question 2. Does the Aeronautical Repair Station Association maintain minimum requirements for its members with regard to the level and quality of background checks? Are there any international standards for repair stations or can anyone who can find mechanics and planes to work on open a business?

Answer. ARSA does not set a standard for members regarding background checks. Regulations issued by the country where the facility is located dictate the need for such checks depending primarily on the location of the facility. Domestically, many repair stations located at an airport are required to have their personnel undergo criminal background checks under TSA regulations if they require unescorted access to the designated airport security identification display area (SIDA). Therefore, a repair station employee that performs line maintenance for an air carrier would have the same 10-year criminal background check requirement as an airline mechanic. Many repair stations voluntarily implement additional security procedures since the quality and safety of their work directly affects their business.

Internationally, the International Civil Aviation Organization (ICAO) sets standards for maintenance, security, and safety. Member countries must adopt or validate regulations that comply with those standards, including personnel licensing, certification of air operators and approved maintenance organizations. In fact, FAA regulations are based on ICAO standards.

Each country must implement the types of security procedures to be followed just as they must do in the safety area. These are based on the standards contained in ICAO Annex 17 and thus are very similar to TSA regulations. They include, but are not limited to:

- A national civil aviation security program with continuous threat monitoring and mandatory quality control procedures;
- Airport security programs for each airport serving international carriers;
- Air operator security programs;
- Background checks for persons implementing security control measures and persons with unescorted access to restricted security areas; and
- Periodic ICAO security audits.

The professionals at the TSA, ICAO and other countries' security oversight organizations have concluded that resources should be focused where the threat is greatest. Therefore, FAA-certificated foreign repair stations working on components and located miles away from an airport are not required to implement background checks for their employees. However, if they perform line maintenance at an international airport or otherwise require access to the ramp area, foreign repair station employees would be subject to similar security requirements as their FAA counterparts, including background checks.

Neither domestic nor international security requirements are based on whether a person works for an airline or a repair station; they are dependent on the degree of access the individual has to the restricted security areas of an airport. Further, mandating additional security requirements where none are truly needed will reallocate limited oversight resources from areas where the threat is greater. This could have the unintended consequence of reducing the level of security for the traveling public.

○