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# OVERSIGHT OF AVIATION SAFETY

## 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

SECOND SESSION

APRIL 10, 2008

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# OVERSIGHT OF AVIATION SAFETY

**THURSDAY, APRIL 10, 2008**

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 10:19 a.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. I apologize to everybody.

The four of us will forego our opening statements, and I hope the others will too. I plan to make mine at some point. But we are faced with an 11 o'clock vote, and it strikes me that there is a very strong connection between hearing each of the witnesses make their statements and then, in return, ensuring that all members will have 7 minutes to question rather than 5 minutes to question. And that is about as fair as I can get for the moment.

So we will start out. We have Mr. Nicholas Sabatini, Associate Administrator of Aviation Safety at FAA, and I have some nice questions for you. Mr. Hank Krakowski, Chief Operating Officer, Air Traffic Organization, ATO; the Honorable Calvin Scovel, Department of Transportation Inspector General, in other words, the IG; the Honorable Steven Chealander. Did I say that right——

Mr. CHEALANDER. Yes, sir.

Senator ROCKEFELLER —of the National Transportation Safety Board, a position which used to be held by this lady here Senator Hutchison. And Mr. Tom Brantley, President, Professional Aviation Safety Specialists; and Mr. Basil Barimo, Vice President of Operations and Safety, Air Transport Association.

[The prepared statement of Senator Rockefeller follows:]

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

The Federal Aviation Administration's lax oversight of Southwest Airlines has cast a serious pall over the agency's ability to execute its core mission—the safety of the Nation's aviation systems.

It is our job today to ask, is this just an isolated incident as some at the FAA and Southwest contend, or is this part of a larger, systemic problem facing both the agency and the industry?

When it comes to the safety of the air traveling public, the American people have put their trust in the men and women of the Federal Aviation Administration and

the mechanics of the commercial airlines. They, like many of us in Congress, look to them to make sure that the planes that take the skies are safe.

But in recent weeks, that that trust has been put to the test—first, with the disturbing reports surrounding the lack of FAA oversight over Southwest, and the revelations involving the FAA's Southwest Region office.

Almost nightly, there are news stories of major commercial airlines grounding hundreds of flights for maintenance inspections which result in tens of thousands of frustrated and stranded passengers.

Bottom line—each passing day brings more questions, and not enough answers. Despite the growing questions surrounding the FAA's oversight of the airline industry, the White House and Department of Transportation remain inexplicably silent. When the Administration should be assembling a task force to investigate this issue and make recommendations for improving aviation safety, the Administration seems content to disregard the concerns of the traveling public.

The FAA has taken some steps to rebuild the public's confidence in the agency's core mission of maintaining the safety of the Nation's aviation system. And moving forward, the FAA needs to take a good long look at itself to begin to understand how internal failures, and the agency's external relationships with commercial air carriers, contributed to current situation.

Many, including myself, have long-criticized the agency for being too close to the industry it regulates. In 1996, to stave off efforts to privatize the agency, Congress grudgingly accepted provisions that would allow the FAA to operate more like a business—in the hopes that it would cost less to operate.

Well, the FAA is not a business. It's a government agency. The FAA does not provide commercial services. It provides public goods—air traffic control, aircraft certification, and safety oversight. We pay taxes for these services.

Clearly, it's time to start thinking about the FAA differently. Toward that end, we need the FAA to operate as the most efficient and effective government agency it can be. It's a subtle distinction, but one that I think is incredibly, deeply important. Bringing about institutional change is never easy, but I think that this Committee and the aviation community must make it a priority.

The air traveling public wants solutions—and they want to be reassured that our Nation's aviation system is still the safest in the world.

No doubt, many of our witnesses will remind the Committee that there has not been a fatal airline accident in almost 2 years, and that statistically this is the safest time to fly. I don't disagree—but I still have serious concerns that there are an increasing number of safety challenges facing the FAA and the industry that, left unaddressed, could lead to a catastrophic accident.

For instance, the number of serious runway incursions remains unacceptably high and is trending in a troubling direction. We have all read and seen stories of near misses at our Nation's airports. Let's be honest, had it not been for the quick-thinking and actions of a few air traffic controllers and pilots, our Nation would have had one, if not several, major accidents claiming the lives of hundreds of people.

I don't mean to be dramatic, but I'm afraid that our aviation system is operating on borrowed time.

Airlines take the right action 99 percent of the time when it comes to safety. But, that's not good enough. As we all know too well, the margins of error in aviation are far too small. It is the 1-percent that can result in tragedy. Our incredible safety record is fragile enough at the moment that we need to be working together to make sure we maintain and strengthen the world's finest aviation system.

And Mr. Sabatini, we will start off with you.

Is that all right with the members?

Senator INOUYE. Fine.

Senator ROCKEFELLER. I want the panel to be able to be finished by the time we have to go vote. Then we can come back and we will have a select number of statements.

Please proceed.

## STATEMENT OF NICHOLAS A. SABATINI, ASSOCIATE ADMINISTRATOR FOR AVIATION SAFETY, FAA; ACCOMPANIED BY HANK KRAKOWSKI, COO, AIR TRAFFIC ORGANIZATION, FAA

Mr. SABATINI. Good morning, Chairman Rockefeller, Chairman Inouye, Senator Hutchison, and Senator Stevens. I appreciate the

opportunity to appear before you today to discuss some of the FAA's many important safety initiatives and how they contribute to extending the safest period in aviation history. With me today is Hank Krakowski, the Chief Operating Officer of the Air Traffic Organization at the FAA.

Let me first begin by describing how we have achieved this unprecedented record of safety.

We did not get here by accident. We did not get here by happenstance. We did not get here by good luck, and it is not a miracle. We got here because of the hard work and dedication of thousands of aviation safety professionals in the industry and in the government, including many of the people in this room.

But while the FAA takes great pride in the fact that on-board fatalities have dropped to a rate of about 1 fatal accident in every 15 million passenger flights, neither Hank nor I nor the other committed aviation safety professionals we deal with are satisfied with these numbers.

I recently ordered a special emphasis surveillance, essentially an audit of the safety programs, the first phase of which was just completed. We found we had achieved 99 percent safety compliance, but it is the other 1 percent that keeps me up at night and it is that 1 percent we are trying to achieve.

Last week, Acting Administrator Sturgell and I announced a five-point plan that addresses the issues of responsibility, accountability, communication, and ethics among our workforce to ensure that our oversight issues with Southwest Airlines are not repeated. These initiatives will help ensure that our rules are being followed and reemphasize to our workforce the importance of consistency and adherence to national policy.

While the FAA has hundreds of safety initiatives ongoing at any given moment, I would like to highlight two areas that I know are of interest to this subcommittee: our oversight of aircraft maintenance and our efforts to reduce runway incursions.

As we have previously discussed with this committee, the FAA has changed the way we oversee aircraft maintenance, moving to the Air Transportation Oversight System, or ATOS, model, which goes beyond simply ensuring regulatory compliance. This oversight approach leverages FAA inspector workforce experience and knowledge by focusing their oversight on areas that will maximize the safety benefits. Our inspectors develop safety surveillance plans for each air carrier based on data analysis and adjust plans periodically based on identified risk and their own random observations.

I am happy to report we recently completed moving all Part 121 air carriers to this oversight system.

I am also very aware of your concern with U.S. carriers having more of their maintenance performed by repair stations both foreign and domestic. For clarification, when an air carrier uses a contract maintenance provider like a repair station or an engine manufacturer to provide all or part of its aircraft maintenance, that entity becomes an extension of the air carrier's own maintenance organization. The air carrier must define the scope and limitations of the outsourced work, ensure that the personnel are competent and have the necessary facilities and equipment to properly execute that work, and supervise or direct the work to ensure that the

work is accomplished and meets all requirements of the air carrier's maintenance program.

Additionally, the FAA has established a new training course for its field maintenance inspectors and supervisors. This course will give our entire maintenance inspector workforce the knowledge and skills necessary to properly conduct surveillance on contract maintenance providers. This 4-day course instructs inspectors on how to access the data collected from the airlines and contract maintenance providers and then use that data to properly assess the risk or potential risk of each contract maintenance provider used by the air carrier.

I would like to turn our discussion now to FAA's efforts to reduce the number and severity of runway incursions which Mr. Krakowski can address in further detail.

Runway safety starts with preventing runway incursions, whether these mistakes are made by pilots, which is about 60 percent of the time; by controllers, about 30 percent of the time; or by pedestrians or ground vehicle operators, about 10 percent of the time. The FAA has an aggressive runway safety program that has reduced the number of serious runway incursions by 55 percent since 2001. We investigate every reported runway incursion as fully as possible and use the data mined from these investigations to help us find the right solutions.

The FAA has been working with aviation leaders to research and implement these solutions. On August 15, 2007, more than 40 representatives from a cross section of the aviation industry answered the Acting Administrator's call to action and agreed to an ambitious plan focused on improving cockpit procedures, airport signage and markings, air traffic procedures, and technology.

The result is that our Nation's busiest airports are now being equipped with runway surveillance technology that improves controller situational awareness on the airport movement area. For example, Runway Status Lights, which were developed as a result of the NTSB Most Wanted List of safety improvements, are a fully automated system that integrates airport lighting equipment with surveillance systems to provide a visual signal to pilots and vehicle operators when it is unsafe to enter, cross, or begin takeoff roll on a runway. This system is already preventing potential accidents.

Just a couple of weeks ago at Dallas-Ft. Worth, a plane was cleared for takeoff, while at the same time air traffic control cleared another aircraft to cross that same runway on a taxiway. The first plane did not initiate its takeoff roll because the pilot saw the red lights of the runway status light system.

In addition to testing other runway safety systems at Long Beach Airport and Spokane, Washington, we are also implementing quick and relatively inexpensive solutions such as improving airfield markings, adding targeted training for controllers and air crews, and fine tuning air traffic procedures.

The FAA is also seeking input from NATCA on revamping policies for issuing taxi clearances and working with the union to implement a voluntary reporting system for air traffic controllers similar to the Aviation Safety Action Program, ASAP, with airlines, pilots, airport operators, and the FAA.

The bottom line is that we committed to designing an end-to-end system that seeks to eliminate runway incursions while accommodating human error. We all have a role in the solution. Every reported runway incursion will be taken seriously, investigated thoroughly, and analyzed to determine the causal factors in order to apply any knowledge gleaned toward finding the right solutions. The FAA continues to seek ways to improve awareness, training, and technologies, and we look forward to working together with airlines, airports, air traffic control, pilot unions, and aerospace manufacturers to curb runway incursions.

Mr. Chairman, the FAA's commitment to improving safety and extending the excellent safety record we are currently experiencing is our number one priority. I hope that some of what I have shared with you today exemplifies that commitment.

This concludes my remarks, Mr. Chairman.

[The prepared statement of Mr. Sabatini follows:]

PREPARED STATEMENT OF NICHOLAS A. SABATINI, ASSOCIATE ADMINISTRATOR FOR AVIATION SAFETY, FAA; ACCOMPANIED BY HANK KRAKOWSKI, COO, AIR TRAFFIC ORGANIZATION, FAA

Chairman Rockefeller, Senator Hutchison, Members of the Subcommittee:

I am pleased to appear before you today to discuss some of the Federal Aviation Administration's (FAA) many important safety initiatives and how they contribute to extending this unprecedented aviation safety record. Some people may dismiss claims like "this is the safest period ever" because they have heard this claim in the past. For at least the past 70 years, aviation safety has improved by a third or more every decade. In fact the pace of improvement has accelerated recently and we believe the pace of improvement will continue to accelerate for the next decade or more.

This context is important. Over the past 5 years, onboard fatalities have occurred at a rate of about 1 fatal accident in every 15 million passenger flights. We see no reason why that figure cannot become one in 30 million or even one in 40 million flights within 10 or 15 years. The system's performance now is so strong that we decided several years ago to develop a new measure to express the risk of fatality in commercial aviation. In addition to traditional data on fatal accidents per 100,000 flight hours or 100,000 departures, the FAA now uses fatalities per 100 million persons flown as a basic measure of the system's performance. This includes all fatalities, whether they occur onboard a passenger or cargo flight, or whether they occur off the aircraft on the airport surface or elsewhere.

To offer a sense of scale, immediately after World War II, that measure yielded nearly 1,500 fatalities per 100 million persons flown. By the early 1960s, the measure had improved to about 500 fatalities per 100 million persons flown. By the mid-1990s, that measure had fallen to about 45 fatalities per 100 million persons flown. Now, in a typical year, we experience rates of 5 to 8 fatalities per 100 million persons flown and we fully expect to reach long-term rates of 4 or fewer fatalities per 100 million persons flown within the next decade. By comparing that level of safety to where we were just 20 years ago, or even a decade ago, we begin to get some sense of scale on how safe the system has become—and it will only continue to get better over the long term.

Yet, although we take great pride in the results of the efforts of aviation safety professionals in both government and industry, we remain ever mindful of the need to continue to push ourselves to find ways to improve a system that, by any standard, is performing remarkably well.

I would briefly like to put into context an incident involving Southwest Airlines that has received a great deal of attention recently. In March of last year, the FAA Principal Maintenance Inspector (PMI) charged with overseeing Southwest Airlines inappropriately, and in violation of existing FAA policy and regulatory requirements, accepted a voluntary disclosure under the Voluntary Disclosure Reporting Program (VDRP). The disclosure was the fact that 46 Southwest Airlines aircraft had continued flight operations past the due date for a required inspection of the aircraft airframe for cracks. These aircraft had overflown an Airworthiness Directive (AD) requiring the inspection.

Despite this determination, and, again, in violation of existing FAA policy and regulatory requirements, the airline, even after reporting this safety violation under VDRP, did not ground these aircraft immediately, but instead continued to operate the aircraft. Subsequently, the airline conducted the required inspections and six aircraft were discovered to have cracks, five of which were ultimately determined to have the type of crack the AD was designed to detect. A total of 1,451 commercial operations were conducted by Southwest Airlines in violation of the law, putting thousands of passengers at risk. That this was done with the implicit consent of the FAA PMI overseeing the carrier is beyond my comprehension.

On March 6, 2008, the FAA issued a $10.2 million proposed civil penalty to Southwest Airlines for its decision to knowingly continue to operate noncompliant aircraft in commercial operations. The FAA is in the process of taking appropriate personnel actions with respect to FAA employees in response to the findings of the ongoing investigation of this matter.

Last week, Acting Administrator Sturgell announced a five point plan that addresses the issues of responsibility, accountability, communication, and ethics. I believe these initiatives will help ensure that our rules are being followed and reemphasize to our workforce the importance of consistency and adherence to national policy.

Also, on March 13, 2008, to ensure that what happened with Southwest Airlines was an isolated problem and not a systemic one, I ordered a Special Emphasis Surveillance, the first phase of which has just been completed. While a second, more comprehensive phase is ongoing, our initial findings validate that our systems safety approach of oversight is working as intended. We expect to complete the second phase by June 30th and will continue to analyze the incoming data to discover if and where other problems in the system exist and to immediately correct any problems identified.

As the FAA addresses these issues of responsibility, accountability, communication, and ethics, we also have hundreds of safety initiatives ongoing at any given moment. As we continue to examine the broader issue of aviation safety in this hearing, I will focus my remarks on two areas that I know are of interest to this Subcommittee, our oversight of aircraft maintenance and our efforts to reduce runway incursions.

When FAA last testified before this Subcommittee on safety oversight, we discussed how the agency has changed the way we oversee aircraft maintenance. We moved from a paradigm where FAA's inspectors were required to complete a prescribed number of oversight activities to one where we used the Air Transportation Oversight System (ATOS) model, which goes beyond simply ensuring regulatory compliance. The goal of the oversight model is to foster a higher level of air carrier safety using a systematic, risk-management-based process to identify safety trends and prevent accidents. ATOS has improved safety because it identifies and helps manage risks before they cause problems by ensuring that carriers have safety standards built into their operating systems.

This oversight approach leverages FAA's inspector workforce experience and knowledge by reducing the likelihood of repeating inspections of the same aircraft or function, unless deficiencies were found in prior inspections of the aircraft or function. Our inspectors develop safety surveillance plans for each air carrier based on data analysis, and adjust plans periodically based on identified risks. For example, with the cost of fuel increasing daily so many of our legacy carriers are dealing with how to manage these unexpectedly large costs. In light of this reality, FAA inspectors can adapt their surveillance plan to increase their focus on areas that might be at risk due to rising fuel costs, such as flight planning, dispatch, and fuel loading. Additionally the system can be adjusted when emphasis areas need to be addressed such as our recent efforts to review Airworthiness Directives. I know that the Inspector General (IG) agrees with the FAA that it is a priority that our inspectors have the tools and information necessary to be flexible in our oversight of carriers as their financial and operational situation changes.

I also know that the IG agrees with us that our new approach to oversight is a better way to make the best use of agency resources as well as to improve safety. We recently completed moving all air carriers to this oversight system. In 2005, we committed to a transition plan to move all remaining FAR Part 121 air carriers operating under ATOS by the end of calendar year 2007. This was no small undertaking. At the time we had only 16 air carriers that were under ATOS. I am happy to report we have met this goal and that all Part 121 carriers have made this most important transition. Additionally, we have improved upon the original system and successfully implemented those improvements. The initial reactions to the modifications and improvements we have made have been extremely positive. However, our

work is not done. We must now be vigilant in using the system to manage identified risks, and take appropriate actions.

This change in oversight recognizes that FAA cannot be expected to provide quality control for every airline or effectively police millions of flights. The safety laws that Congress passes and the regulations we implement all place the responsibility for safety on the airlines. The FAA has regulatory oversight responsibilities to ensure that air carriers comply with safety standards and requirements. The FAA's role is an important one, and we see the new approach under ATOS as providing more effective and efficient use of our resources. By focusing on risk we can determine how well the airline is managing its processes and whether or not the processes are performing as designed to meet the safety standards. Our inspection tools are designed to collect data for these purposes. Our oversight systems engage air carriers in the management of their safety issues.

I am very aware of your concern with U.S. carriers having more of their maintenance performed by repair stations, both foreign and domestic. I want to clarify the roles and responsibilities of air carriers, repair stations, and the FAA. When an air carrier uses a contract maintenance provider (a certificated Part 145 repair station or a non-certificated provider) to provide all or part of its aircraft maintenance, that maintenance provider's organization becomes an extension of the air carrier's maintenance organization. The air carrier must define the scope and limitations of the outsourced work, provide the applicable sections of the carrier's maintenance manual, ensure that the personnel are competent and have the necessary facilities and equipment to properly execute that work, and supervise or direct the work to ensure that the work is accomplished and meets all requirements of the air carrier's maintenance program. We are reviewing how we could clarify how an air carrier can demonstrate that all of its maintenance has been properly performed, regardless of whether it is done by the carrier itself or by another entity. We may pursue rulemaking on this issue in the near future.

Additionally, the FAA has established a new training course for its field maintenance inspectors and supervisors. This course will give our entire maintenance inspector workforce the knowledge and skills necessary to properly conduct surveillance on contract maintenance providers. This is a four-day course that instructs the inspectors how to access the data collected from the airlines and contract maintenance providers and then use that data to properly assess the risks or potential risks of each contract maintenance provider used by the air carrier.

I am confident that the changes we have made in our oversight philosophy and the work we continue to do with input and assistance from the aviation community, Congress, and the international community has contributed to this historically safe period of commercial aviation safety. Our safety oversight must keep pace with the industry as it changes and I believe we are well positioned to accept that challenge.

Turning to another of the FAA's top priorities, I would like to discuss FAA's efforts to reduce the number and severity of runway incursions. Runway safety starts with preventing runway incursions, whether these mistakes are made by pilots, controllers or ground vehicle operators.

Recently, the National Transportation Safety Board (NTSB) and the Government Accountability Office (GAO) have issued recommendations on areas where the FAA could make improvements in runway safety. In November, the NTSB announced that improving runway safety will remain on the Board's "Most Wanted" list of improvements for 2008. FAA believes that the technologies we are now testing and deploying will be responsive to address the problem of runway incursions. Also, the GAO reported on how the FAA has taken steps to address runway and ramp safety. We appreciate the work that the GAO and NTSB have done, and we welcome their analysis and feedback. The FAA has actively and consistently invested in programs and technology development to address this serious aviation safety issue.

An aggressive and effective FAA runway safety program has reduced the number of serious runway incursions by 55 percent since 2001. In Fiscal Year 2007, we saw a 25 percent reduction in serious runway incursions from 2006: there were 24 serious runway incursions (referred to as Category A and B incursions) during 61 million aircraft operations, a significant reduction from the 31 incursions in FY 2006 (and the 53 incursions in FY 2001). But while we have made improvements with the most serious categories of the runway incursions, overall runway incursions increased in FY 2007 to 370, up from 330 in FY 2006. While most of these incursions are Category C and D incidents, which pose little or no risk to the public, the increase in incursions and the fact that serious incursions are still occurring, prompted the Acting Administrator to issue a "Call to Action" on runway safety last August.

On October 1, 2007, the FAA adopted the definition of runway incursion as used by the International Civil Aviation Organization (ICAO), a United Nations organiza-

tion charged with promoting safety and security in international aviation. This new definition, which FAA helped develop for ICAO, is much more inclusive and counts every single mistake made on the airport operational surface, even if another vehicle, pedestrian or aircraft is not involved. As a result, we will have more data to analyze trends and improve safety.

The FAA investigates every reported runway incursion and assigns a reason for the incursion. The investigation includes a review of the airport information; radar data and voice tapes, if they are available; statements from individuals involved; and, in the case of serious incursions, we send teams to conduct on-site investigations at the facility. There are three broad categories to which we attributed runway incursions that happened since October 1, 2006. About 60 percent are as a result of pilot error. Operational errors and deviations by air traffic controllers represent about 30 percent of causes of runway incursions. The rest are attributed to pedestrian or vehicle errors.

The FAA continues to work with aviation industry leaders to research and implement new technologies, and mine and interpret safety data with the focus on improving airport safety. I would like to highlight some of our recent efforts in this area. As noted earlier, on August 15, 2007, more than 40 representatives from a cross-section of the aviation industry agreed to an ambitious plan focused on solutions in improving cockpit procedures, airport signage and markings, air traffic procedures, and technology. Within 60 days of this "Call to Action" on runway safety, Acting Administrator Sturgell announced that the aviation community had completed significant short-term actions and were making strides in the mid- and long-term goals.

Our nation's busiest airports are now being equipped with runway surveillance technology that improves controller situational awareness on the airport movement area. The FAA has spent over $404 million to date to acquire and deploy the next generation of ground surveillance technology, known as Airport Surface Detection Equipment—Model X or ASDE–X for short. Twelve towers in the system have ASDE–X operational, and we have accelerated our installation schedule by 1 year—the target completion date for the last system is now September 2010. The FAA will commit more than $806 million over a 30-year period on equipment, installation, operations and maintenance of the 35 ASDE–X systems.

Runway Status Lights, which were developed as a result of the NTSB's "Most Wanted" list of safety improvements, are a full-automated system that integrates airport lighting equipment with surveillance systems to provide a visual signal to pilots and vehicle operators when it is unsafe to enter/cross/or begin takeoff roll on a runway. Airport surveillance sensor inputs are processed through light control logic that command in-pavement lights to illuminate red when there is traffic on or approaching the runway. The FAA has spent nearly $25.8 million on this initiative.

The system is being tested at Dallas-Fort Worth and San Diego. We have selected Los Angeles International Airport as an additional test site and are working to select several other large airports for continued testing of this system in "complex" airport environments. The system is preventing potential accidents today. Just a couple of weeks ago, at Dallas-Ft. Worth, a plane was cleared for take-off, while at the same time air traffic control cleared another aircraft to cross that same runway on a taxiway. The first plane did not initiate its takeoff roll, because the pilot, "saw the red lights" of the Runway Status Light System.

We are also testing a runway safety system at the Long Beach Airport, known as the Final Approach Runway Occupancy Signal (FAROS). This system is similar to Runway Status Lights in that it provides immediate information to pilots on approach to land that the runway is occupied or otherwise unsafe for landing. The FAROS system determines the occupancy of the runway by detecting aircraft or vehicles on the runway surface. If a monitored area on the runway is occupied, FAROS activates a signal to alert the pilot that it is potentially unsafe to land. We are developing a plan for implementing FAROS at larger airports, and expect to begin operational trials at Dallas-Fort Worth by the end of FY 2008.

The FAA is testing two low-cost ground surveillance systems at Spokane, Washington, that would provide ground situational awareness to controllers at airports other than the 35 slated to get ASDE–X systems. To date, we have spent $4.5 million on this project and we are assessing if it is an alternative safety measure for less busy airports not scheduled to receive the ASDE–X system.

Twenty of the busiest airports in America were identified for targeted Runway Safety Action Team visits based on a combination of a history of runway incursions, wrong runway events and wrong runway risk factors. The Runway Safety Action Team visits involved service analysis meetings with air traffic control, both management and controllers, safety inspectors from FAA and the airports, and airport man-

agers and operators. These meetings identified over 100 short term fixes that could be accomplished within 60 days, including new or improved signage, improved marking, driver training, and other actions. This concerted effort is proving effective.

Not all measures to improve runway safety will involve fielding expensive equipment and new systems. Quick and relatively inexpensive solutions include improving airfield markings, adding targeted training for controllers and aircrews, and fine-tuning air traffic procedures. Incorporating the lessons learned through the meetings with the initial 20 airports, FAA has identified a second tier of 22 airports we will be expanding this program to cover next.

Finally, the FAA is seeking input from the National Air Traffic Controllers Association (NATCA) on revamping policies for issuing taxi clearances. We also recently signed an agreement with NATCA to implement a voluntary reporting system for air traffic controllers similar to the Aviation Safety Action Program (ASAP) with airlines, pilots, airport operators and the FAA. This type of reporting system, which is in place throughout the industry, will help to create an atmosphere where controllers and managers can identify, report and correct safety issues. This will go a long way in helping us further improve our safety record.

The FAA is committed to designing an end-to-end system that seeks to eliminate runway incursions while accommodating human error. We all have a role in the solution. Every reported runway incursion will be taken seriously, investigated thoroughly, and analyzed to determine the causal factors. The FAA continues to seek ways to improve awareness, training, and technologies and we look forward to our collaboration with airlines, airports, air traffic control and pilot unions, and aerospace manufacturers to curb runway incursions. We appreciate the Subcommittee's interest in safety, and welcome your counsel and assistance in our efforts to reduce runway incursions and improve safety in our Nation's aviation system.

Mr. Chairman, the FAA's commitment to improving safety and extending the excellent safety record we are currently experiencing is our number one priority. I hope some of what I have shared with you today exemplifies that commitment. Of course, as I stated at the outset, FAA is involved in hundreds of important safety initiatives and what I have highlighted represents only a small fraction of what we are doing and what has contributed to today's impressive safety record.

This concludes my remarks, and my colleague and I would be happy to answer any questions the Subcommittee may have.

Senator ROCKEFELLER. Thank you.

Mr. Krakowski, Chief Operating Officer, Air Traffic Organization, ATO.

Mr. KRAKOWSKI. My comments were incorporated in Mr. Sabatini's.

Senator ROCKEFELLER. So you are the lone person speaking?

Mr. Scovel?

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

Mr. SCOVEL. Good morning, Chairman Rockefeller, Senator Hutchison, Chairman Inouye, Vice Chairman Stevens. We appreciate the opportunity to testify today on the key safety challenges facing FAA and its stakeholders.

A number of high profile events, including fundamental breakdowns in FAA oversight at Southwest Airlines, have raised legitimate concerns about whether FAA's overall approach to safety oversight is effective and what changes are needed. We see three broad areas where actions need to be focused over the next several years.

First, FAA's oversight of the aviation industry. Recent events at Southwest Airlines brought to light serious lapses in FAA's oversight of air carriers. For example, we found that FAA's Southwest inspection office developed an overly collaborative relationship with the air carrier and allowed repeated self-disclosures of Airworthi-

ness Directive, or AD, violations without ensuring that the carrier had addressed the underlying problem. The balance tipped too heavily in favor of collaboration at the expense of oversight and appropriate enforcement.

We also found that weaknesses in FAA's national oversight allowed the problems at Southwest to go undetected for several years. As early as 2003, an FAA inspector one of the whistleblowers in this case, expressed concerns about Southwest's compliance with ADs.

In 2006, this whistleblower urged FAA to conduct system-wide reviews, but FAA did not begin these reviews until after the details of the March 2007 disclosure became public. In fact, we found that FAA inspectors had not reviewed Southwest's system for compliance with ADs since 1999. At the time of the Southwest disclosure, 21 key inspections had not been completed in at least 5 years. As of March 25, 2008, FAA still had not completed five of these required inspections; in some cases, inspections had not been completed in nearly 8 years.

We have identified problems with FAA's national program for risk-based oversight in the past. For example, in 2005, we found that inspectors did not complete 26 percent of planned inspections. Half of these were in identified risk areas. We recommended at that time and previously in 2002, that FAA needed to provide for greater national oversight; this is still needed today.

Additionally, we found serious problems with FAA's processes for conducting internal reviews and ensuring appropriate corrective actions. FAA did not attempt to determine the root cause of the safety issue at Southwest or begin enforcement action against the carrier until November 2007. Too much attention was focused on the messenger and not on solutions for legitimate safety concerns.

This also raises questions about FAA's ability to investigate safety allegations raised by inspectors. Corrective actions are urgently needed to strengthen FAA's oversight and prevent similar problems from recurring. FAA took actions but only after events became public last month.

In addition to steps underway, we recommend that FAA revise the Voluntary Disclosure Reporting Program to ensure that air carriers take corrective actions to address violations identified through self-disclosures; implement a process for second-level review of self-disclosures before accepting and closing them; periodically transfer supervisory inspectors to ensure reliable and objective air carrier oversight; require an appropriate post-employment cooling-off period for inspectors; implement a process to track field office inspections and alert local, regional, and Headquarters offices to overdue inspections; and establish an independent body to investigate inspector concerns.

FAA has agreed to work with us to address our recommendations.

The second area requiring action is runway safety. Aviation stakeholders have expressed growing concern regarding the rise in severe runway incidents. Recent close calls on the ground underscore the need for proactive actions to improve runway safety.

New technology is considered the primary solution for improving safety in this area, but our work on the three major FAA acquisi-

tions for improving runway safety has shown significant concerns as to what can be effectively deployed within the next several years.

The uncertain timeline of FAA's runway safety technologies underscores the need to explore other near-term solutions to improve runway safety. These include implementing relatively low-cost, airport-specific changes such as improving runway signage and airport operations, reinvigorating FAA's national plan for runway safety, and addressing human factors issues such as fatigue and situational awareness.

The final area I will discuss is attrition in two of FAA's critical workforces: air traffic controllers and aviation safety inspectors. The long-expected surge in controller retirements has begun. Since 2005, 3,300 controllers have left the Agency, which is 23 percent more than projected. FAA has accelerated its hiring efforts and hired 3,450 new controllers since 2005. However, this will remain a critical issue for FAA over the next 10 years since it must hire and train at least 17,000 new controllers through 2017.

FAA also faces challenges to its oversight mission due to attrition in the inspector workforce. Last year, FAA's hiring efforts kept pace with retirements, and the Agency ended the year with 133 additional inspectors over Fiscal Year 2006 levels. However, FAA must closely oversee this effort since nearly half of the inspector workforce will be eligible to retire within the next 5 years.

That concludes my statement, Mr. Chairman. I would be happy to address any questions you or 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 today on the key safety challenges facing the Federal Aviation Administration (FAA) and its stakeholders. Aviation safety oversight is—and must remain—FAA's highest priority. For more than 10 years, our work has focused on actions needed to maintain the integrity and safety of our aviation system. Our statement today is based on our previous reports and investigations as well as our ongoing work.

As this Committee is aware, safety is a shared responsibility among FAA, aircraft manufacturers, airlines, and airports. Together, all four form a series of overlapping controls to keep the system safe. The U.S. has achieved an impressive safety record over the past several years. This is a remarkable feat given all the changes that have occurred within the industry. For example, network carriers face considerable uncertainty with a softening economy, increasing fuel prices, and competition from low-cost carriers, who now possess one-third of the market in terms of available passenger seats.

Network carriers have moved aggressively away from high cost structures by reducing in-house staff, re-negotiating labor agreements, and increasing the use of outside repair facilities. There also is considerable discussion regarding mergers and further consolidation within the industry.

At the same time, demand for air travel has increased and aircraft load factors are nearly 80 percent—an all-time high. In 2007, U.S. airlines transported over 700 million passengers and this number is forecasted to grow to more than 1 billion by 2016.

However, a number of high-profile events, including fundamental breakdowns in FAA oversight at Southwest Airlines (SWA), have raised legitimate concerns about the effectiveness of FAA' s overall approach to safety oversight and what changes are needed. These concerns have been amplified by the fact that airlines have grounded nearly 700 aircraft since FAA began industry-wide assessments of compliance with safety directives. There is an urgent need to assess what went wrong,

identify root causes, and proactively examine how to maintain and ultimately enhance the margin of safety.

Mr. Chairman, it is against this backdrop that we would like to discuss the following three key safety challenges facing FAA and its stakeholders, as we see them:

- Strengthening FAA's oversight of the aviation industry,
- Improving runway safety, and
- Addressing attrition within two of FAA's critical workforces.

*Strengthening FAA's Oversight of the Aviation Industry.* The recent events at SWA brought to light serious lapses in FAA's oversight of air carriers. As this Committee knows, FAA's handling of whistleblower concerns regarding SWA's failure to follow a critical FAA Airworthiness Directive (AD) has had a cascading effect throughout the industry. While the critical safety lapses indicated problems with the airline's compliance, they are symptomatic of much deeper problems in several key areas of FAA's oversight.

- We found FAA's SWA inspection office developed an overly collaborative relationship with the air carrier that allowed repeated self-disclosures of AD violations through FAA's partnership program. These programs are intended to facilitate cooperation between FAA and air carriers to identify and address safety issues. Yet, FAA allowed SWA to repeatedly self-disclose AD violations without ensuring that SWA had developed a comprehensive solution for reported safety problems—which is required for FAA to accept the disclosure and absolve the carrier of any penalty.
- We also found that the events at SWA demonstrate weaknesses in FAA's national program for risk-based oversight—the Air Transportation Oversight System (ATOS). This allowed AD compliance issues in SWA's maintenance program to go undetected for several years. As early as 2003, one of the whistleblowers expressed concerns to FAA about SWA's compliance with ADs. In 2006, he began urging FAA to conduct system-wide reviews, but FAA did not begin these reviews until after the details of the March 2007 disclosure became public. In fact, FAA inspectors had not reviewed SWA's system for compliance with ADs since 1999. At the time of SWA's disclosure, 21 key inspections had not been completed in at least 5 years. As of March 25, 2008, FAA still had not completed five of these required inspections, in some cases inspections had not been completed in nearly 8 years.

  We previously identified system-wide problems with ATOS. In 2005,[1] we found that inspectors did not complete 26 percent of planned ATOS inspections—half of these were in identified risk areas. We recommended, among other things, that FAA strengthen its national oversight and accountability to ensure consistent and timely ATOS inspections. However, FAA has still not fully implemented our recommendations.
- Our ongoing work at SWA and our 2007 audit at Northwest Airlines (NWA) also have identified weaknesses in FAA's processes for conducting internal reviews and ensuring appropriate corrective actions. In the SWA case, FAA's internal reviews found, as early as April 2007, that the principal maintenance inspector (PMI) was complicit in allowing SWA to continue flying aircraft in violation of the AD. Yet, FAA did not attempt to determine the root cause of the safety issue, nor initiate enforcement action against the carrier until November 2007.
- We also have concerns regarding FAA' s failure to protect employees who report safety issues from retaliation by other FAA employees. For example, in the SWA case, after one whistleblower voiced his concerns to FAA, an anonymous hotline complaint was lodged against him. According to the inspection office manager, the PMI indicated that a SWA representative submitted the complaint. The complaint was non-specific and never substantiated, but the whistleblower was removed from his oversight duties for 5 months while he was being investigated. Yet, FAA did not suspend other inspectors who were subjects of similar complaints, including the PMI, who admitted that he allowed SWA to continue flying in violation of the AD.

  Our work at NWA found the same problem with FAA' s handling of the inspector who reported safety concerns. As with the inspector in the SWA case, FAA

[1] OIG Report Number AV–2005–062, "FAA Safety Oversight of an Air Carrier Industry in Transition," June 3, 2005. OIG reports and testimonies are available on our website: *www.oig.dot.gov*.

managers reassigned an experienced inspector to office duties, after a complaint from the airline, and restricted him from performing oversight on the carrier's premises. At NWA, FAA's reviews of an inspector's safety concerns were limited and overlooked key findings identified by other inspectors. Although some of the inspector's safety concerns were valid, FAA informed him that all of his concerns lacked merit.

Both the SWA and NWA cases demonstrate that FAA must pursue a more reliable internal review process and protect employees who bring important safety issues to light.

Recently, FAA announced several actions to address the SWA safety directive violation. These include initiating a review of AD compliance at SWA and other air carriers. FAA also proposed to fine SWA more than $10 million. While FAA' s actions are necessary, albeit long overdue, the issues we have identified will require immediate and comprehensive changes in FAA's air carrier oversight. These actions include the following:

—Ensuring that its Voluntary Disclosure Reporting Process requires inspectors to (a) verify that air carriers take comprehensive actions to correct the underlying causes of violations identified through self-disclosure programs, and (b) evaluate, before accepting a new report of a previously disclosed violation, whether the carrier developed and implemented a comprehensive solution.

—Implementing a process for second level supervisory review of self-disclosures before they are accepted and closed—acceptance should not rest solely with one inspector.

—Periodically rotating supervisory inspectors to ensure reliable and objective air carrier oversight.

—Revising its post-employment guidance to require a "cooling-off" period before an FAA inspector is hired at an air carrier he or she previously inspected.

—Implementing a process to track field office inspections and alert the local, Regional, and Headquarters offices to overdue inspections.

—Establishing an independent organization to investigate safety issues identified by its employees.

—Developing a national review team that conducts periodic reviews of FAA's oversight of air carriers.

FAA committed to implement these recommendations. Follow through will be critical to demonstrate FAA's commitment to providing effective oversight.

Our work also has shown that FAA needs to make similar improvements in its oversight of repair stations and its risk-based system for overseeing aircraft manufacturers' suppliers. A key issue in both cases is that FAA's oversight was inadequate in keeping up with dynamic changes occurring in those industries. We will continue to examine FAA's oversight approach of the aviation industry from a national perspective, and will keep the Committee apprised of our progress with this review, as well as other actions FAA should take to ensure safety.

*Improving Runway Safety.* Aviation stakeholders are expressing growing concerns regarding the rise in severe runway incidents. Recent incidents such as close calls on the ground in Baltimore, Chicago, and San Francisco, underscore the need for proactive actions to improve runway safety. In fact, the last fatal commercial aircraft accident in the United States (in 2006) occurred because the pilots of Comair Flight 5191 attempted to take off from the wrong runway.

A significant threat to runway safety is runway incursions (any incident involving an unauthorized aircraft, vehicle, or person on a runway). Reducing the risk of runway incursions has been on the National Transportation Safety Board's (NTSB) Most Wanted List of Safety Improvements since the list's inception in 1990. Because runway incursions can be caused by controllers, pilots, or ground vehicles, responsibility for their prevention falls on all users of the National Airspace System—FAA, airlines, and airport operators—and there are a mix of actions needed to address this critical safety issue.

- New technology is considered by many to be the primary solution for improving runway safety but is years away from effective deployment. Our work on three major FAA acquisitions for improving runway safety has shown that there are significant concerns as to what can be effectively deployed within the next several years. For example, a key technology for preventing runway accidents—the Airport Surface Detection Equipment-Model-X (ASDE–X)—may not meet its cost and schedule goals to commission all 35 systems for $549.8 million by 2011.

One of the most promising technologies on the horizon is the Automatic Dependent Surveillance-Broadcast (ADS–B)—a satellite-based technology that allows aircraft to broadcast their position to other aircraft and ground systems. When displayed in the cockpit, ADS–B information can provide a "second set of eyes" by including the pilot in the loop to detect and alleviate hazardous surface situations. However, as we testified in October,[2] ADS–B ground infrastructure will not be in place until 2013, and users will not be required to equip with the needed avionics until 2020.

- The uncertain timeline of FAA's runway safety technologies underscore the need to explore other near-term solutions to improve runway safety. We found that there are several relatively low-cost, simple, airport-specific changes that can help reduce the risk of runway incursions. These include airport infrastructure changes as well as procedural changes to daily airport operations.

  In May 2007, we reported[3] on runway safety efforts at four airports that had experienced a surge in runway incursions in 2005 and 2006—Boston, Chicago, Philadelphia, and Los Angeles. We found that airport operators at all four locations responded to the rise in runway incursions by improving airport lighting, adding better signage, and improving runway and taxiway markings. This included upgrading surface-painted, hold-short surface markings in advance of FAA's mandatory date of June 2008.
- FAA also needs to take actions to reinvigorate its national program for runway safety. This was a key focus in 2001 when runway incursions reached an all-time high. However, we found that many important national initiatives for promoting runway safety (undertaken by FAA as early as 2000) had waned as the number of incidents declined and FAA met its overall goals for reducing runway incursions.
- Finally, addressing human factors issues, such as fatigue and situational awareness, is important to improving runway safety. Training new controllers on human factor issues as well as technical aspects of air traffic control (such as airspace, phraseology, and procedures) will become increasingly important as FAA begins to address the vast influx of new controllers, as large numbers of veteran controllers retire.

*Addressing Attrition Within Two of FAA's Critical Workforces.* A key issue that will affect FAA for at least the next 10 years is addressing attrition in two of its critical safety workforces—air traffic controllers and aviation safety inspectors. Since 2005, 3,300 controllers have left the Agency–23 percent more than projected. FAA has accelerated its hiring efforts and has hired 3,450 new controllers since 2005–25 percent more than projected. Still, FAA faces a major challenge as it must hire and train at least 17,000 new controllers through 2017.

- As a result of the high level of controller attrition, FAA is facing a fundamental transformation in the composition of its controller workforce. The overall percentage of controllers-in-training has grown substantially during the past 3 years. New controllers now represent about 25 percent of the workforce (up from 15 percent in 2004). However, that percentage can vary extensively by location—from as little as 2 percent (*e.g.,* Boston TRACON) to as much as 50 percent (*e.g.,* Las Vegas TRACON).

  A major challenge in addressing the attrition surge will be to train new controllers to the Certified Professional Controller (CPC) level at their assigned locations—a process that can take up to 3 years. Training new controllers to the CPC level is important for two reasons: (1) only CPCs are qualified to control traffic at *all* positions of their assigned area, and (2) only CPCs certified for at least 6 months (at their assigned location) can become on-the-job training (OJT) instructors for other new controllers. FAA must have enough OJT instructors at all locations if it is to achieve its ambitious hiring and training plans for the next 10 years and beyond.
- FAA also is facing challenges to its oversight mission due to attrition in its inspector workforce. FAA has about 4,100 inspectors to oversee a dynamic and rapidly changing industry, which includes 114 commercial air carriers, almost 5,000 foreign and domestic repair stations, more than 700,000 active pilots, and more than 1,600 approved manufacturers. Last year, FAA's hiring efforts kept

[2] OIG Testimony Number CC–2007–100, "Challenges Facing the Implementation of FAA's Automatic Dependent Surveillance-Broadcast Program," October 17, 2007.

[3] OIG Report Number AV–2007–050, "Progress Has Been Made in Reducing Runway Incursions, but Recent Incidents Underscore the Need for Further Proactive Efforts," May 24, 2007.

pace with retirements, and the Agency ended the year with 133 additional inspectors compared to Fiscal Year (FY) 2006 levels. However, FAA must continue to closely oversee this effort since nearly half of the inspector workforce will be eligible to retire in the next 5 years.

To maximize its limited inspector resources, FAA has been working toward risk-based safety oversight systems for air carriers, repair stations, and manufacturers. These systems target inspector resources to areas of greatest risk. However, unless FAA develops a reliable staffing model, it will not be able to effectively use its inspectors.

I would now like to discuss these areas in further detail.

**Strengthening FAA'S Oversight of the Aviation Industry**

*Recent Events at Southwest Airlines Underscore System-wide Weaknesses in FAA's Oversight of Air Carriers*

The recent events at SWA have exposed significant weaknesses in FAA's oversight of air carriers and problems with its partnership programs. The FAA directive[4] in this case required SWA to inspect the fuselages of its Boeing 737s for potential cracks. FAA issued this directive after an Aloha Airlines 737 lost a major portion of its hull while in flight at 24,000 feet in 1988, resulting in one fatality and multiple injuries.

According to FAA, when an air carrier determines that it has not implemented an AD, it is required to immediately ground all non-compliant aircraft. FAA inspectors share this responsibility—if an inspector becomes aware that an air carrier has violated the terms of an AD, the inspector is required to ensure that the aircraft are grounded.

To meet this requirement, air carriers need a system to help them perform repetitive inspections of aircraft fuselages in a timely manner. However, we found that SWA did not have an adequate system to ensure it completed these inspections. As a result, SWA operated 46 aircraft that were not inspected for fuselage cracks. These aircraft flew in violation of the AD on more than 60,000 flights for up to 9 months. We estimate that these aircraft carried 6 million passengers during this period.

According to SWA, it discovered it had violated this directive on March 14, 2007. SWA notified an FAA PMI the following day. However, the inspector did not direct SWA to ground the affected planes, and SWA continued to operate them on 1,451 flights for 8 more days, carrying an estimated 145,000 passengers.

The PMI permitted—and encouraged—SWA to formally self-disclose the AD violation through its Voluntary Disclosure Reporting Program (VDRP), which would allow the airline to avoid any penalties. FAA accepted the self-disclosure, even though it had already accepted multiple disclosures on AD violations—this should have prompted concerns regarding whether underlying problems were corrected.

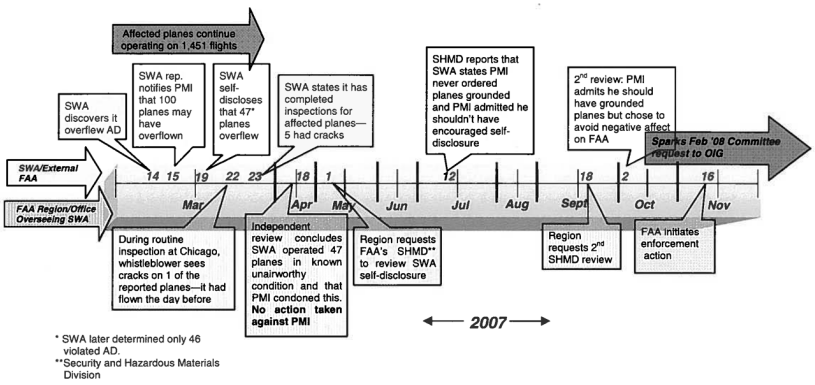
Once it formally self-disclosed the violation on March 19, 2007, SWA stated that it was in compliance with the AD, meaning it had inspected or grounded all affected aircraft. However, two FAA inspectors (the whistleblowers in this case) reported that their supervisor, the PMI, knowingly permitted SWA to continue flying the identified aircraft even after SWA's self-disclosure. SWA officials confirmed this and stated that the PMI gave them verbal permission to continue flying the aircraft.

During our review, we found that—after SWA self-disclosed the overflight—several of these aircraft flew into airports multiple times where they could have received the required inspections. When SWA finally inspected the aircraft, it found fuselage cracks in five of them. The AD specifies that these cracks could potentially lead to fuselage separation and rapid aircraft depressurization if left in disrepair.

While these critical safety lapses indicate problems with SWA's ability to comply with safety directives, they are symptomatic of much deeper problems with FAA's oversight (the timeline below shows the events of the SWA disclosure and FAA actions).

[4] FAA Airworthiness Directive 2004–18–06 requires that Boeing 737s (series 200, 300, 400, and 500) be inspected for fuselage cracks every 4,500 cycles (1 cycle equals 1 take-off and landing) after they reach 35,000 cycles.

***Figure 1. Timeline of SWA Disclosure***




*We found that FAA's SWA's inspection office developed an overly collaborative relationship with the air carrier that allowed repeated self-disclosures of AD violations through its partnership program.* Partnership programs are intended to encourage data-sharing between FAA and air carriers to identify and address safety issues. Yet, FAA allowed SWA to repeatedly self-disclose AD violations without ensuring that SWA had developed a comprehensive solution for reported safety problems—which is required for FAA to accept the disclosure and absolve the carrier of any penalty.

However, SWA's proposed solutions, which FAA has repeatedly accepted, have failed to solve AD compliance issues, as it has violated four different ADs eight times since December 2006, including five in 2008. FAA's oversight in this case appears to allow, rather than mitigate, recurring safety violations.

FAA maintains that disclosure programs are valuable, as they can help to identify and correct safety issues that might not otherwise be obtainable. However, we are concerned that FAA relies too heavily on self-disclosures and promotes a pattern of excessive leniency at the expense of effective oversight and appropriate enforcement. Further, a partnership program that does not ensure carriers correct underlying problems is less likely to achieve safety benefits.

Our ongoing work at another carrier has identified concerns with employees using disclosures to avoid penalties for safety violations. FAA must take steps to maintain the safety objective of these programs by actively discouraging improper relationships between inspection offices and carriers so that these programs do not lapse into an easy amnesty path for perpetual safety violators.

*We also found that the events of SWA demonstrate weaknesses in FAA's national program for risk-based oversight—the Air Transportation Oversight System (ATOS).* This allowed AD compliance issues in SWA's maintenance program to go undetected for several years. As early as 2003, one of the whistleblowers expressed concerns to FAA about SWA's compliance with ADs. In 2006, he began urging FAA to conduct system-wide reviews, but FAA did not begin these reviews until after the details of the March 2007 disclosure became public.

In fact, FAA inspectors had not reviewed SWA's system for compliance with ADs since 1999. At the time of the Southwest disclosure, 21 key inspections had not been completed in at least 5 years. As of March 25, 2008, FAA still had not completed five of these required inspections, in some cases inspections had not been completed in nearly 8 years.

We have previously identified system-wide problems with ATOS. For example, in 2002,[5] we found inconsistent inspection methods across FAA field offices for various carriers. As a result, FAA inspectors were confused over how to conduct ATOS inspections and assess risks.

[5] OIG Report Number AV–2002–088, "Air Transportation Oversight System," April 8, 2002.

In 2005,[6] we found that inspectors did not complete 26 percent of planned ATOS inspections—half of these were in identified risk areas. We recommended, among other things, that FAA strengthen its national oversight and accountability to ensure consistent and timely ATOS inspections. However, FAA still has not fully addressed our recommendations.

*Further, our ongoing work and our 2007 report[7] at NWA have identified weaknesses in FAA's processes for conducting internal reviews, ensuring corrective actions, and protecting employees who report safety concerns.* In the SWA case, FAA's internal reviews found as early as April 2007 that the PMI was complicit in allowing SWA to continue flying aircraft in violation of the AD. Yet, FAA did not attempt to determine the root cause of the safety issue, nor initiate enforcement action against the carrier until November 2007. At NWA, FAA's reviews of an inspector's safety concerns were limited and overlooked key findings identified by other inspectors. Although some of the inspector's safety concerns were valid, FAA informed him that all of his concerns lacked merit.

We also have concerns regarding FAA's failure to protect employees who report safety issues from retaliation by other FAA employees. For example, in the SWA case, after one whistleblower voiced his concerns to FAA, an anonymous hotline complaint was lodged against him. According to the inspection office manager, the PMI indicated that a SWA representative submitted the complaint.

The complaint was non-specific and never substantiated, but the whistleblower was removed from his oversight duties for 5 months while he was being investigated. Yet, FAA did not suspend other inspectors who were subjects of similar complaints, including the PMI, who admitted he allowed SWA to continue flying in violation of the AD.

Our work at NWA found the same problem with FAA's handling of the inspector who reported safety concerns. As with the inspector in the SWA case, FAA managers reassigned an experienced inspector to office duties, following a complaint from the airline, and restricted him from performing oversight on the carrier's premises.

Both the SWA and NWA cases demonstrate that FAA must pursue a more reliable internal review process and protect employees that bring important safety issues to light. Recently, FAA announced several actions to address the SWA safety directive violation. These include initiating a review of AD compliance at SWA and other air carriers. FAA also proposed to fine SWA more than $10 million.

*While FAA's actions are necessary, albeit long overdue, the issues we have identified will require immediate and comprehensive changes in FAA's air carrier oversight programs.* These actions include the following:

- Ensuring that its VDRP guidance requires inspectors to (a) verify that air carriers take comprehensive actions to correct the underlying causes of violations identified through self-disclosure programs, and (b) evaluate, before accepting a new report of a previously disclosed violation, whether the carrier developed and implemented a comprehensive solution.
- Implementing a process for second level supervisory review of self-disclosures before they are accepted and closed—acceptance should not rest solely with one inspector.
- Periodically rotating supervisory inspectors to ensure reliable and objective air carrier oversight.
- Revising its post-employment guidance to require a "cooling-off" period when an FAA inspector is hired at an air carrier he or she previously inspected.
- Implementing a process to track field office inspections and alert the local, Regional, and Headquarters offices to overdue inspections.
- Establishing an independent organization to investigate safety issues identified by its employees.
- Developing a national review team that conducts periodic reviews of FAA's oversight of air carriers.

FAA committed to implement these recommendations. Follow through will be critical to demonstrate FAA' s commitment to providing effective oversight.

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[6] OIG Report Number AV–2005–062, "FAA Safety Oversight of an Air Carrier Industry in Transition," June 3, 2005.

[7] OIG Report Number AV–2007–080, "FAA's Actions Taken To Address Allegations of Unsafe Maintenance Practices at Northwest Airlines," September 28, 2007.

*Improvements Also Are Needed in FAA's Oversight of Repair Stations and Aircraft Manufacturers' Suppliers*

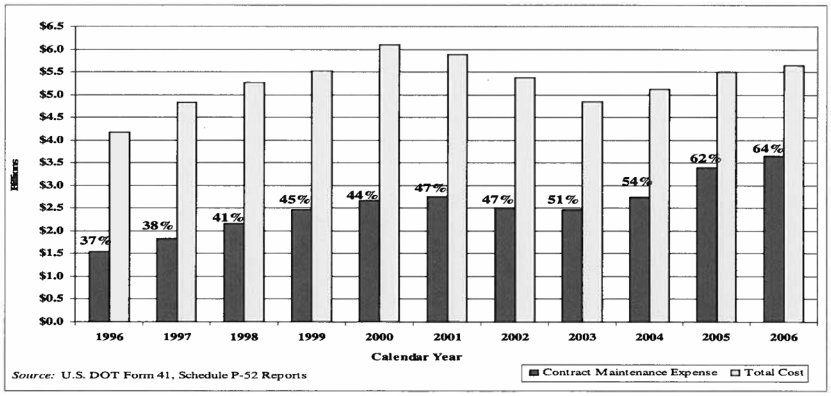
As with its oversight of air carriers, our work also has shown FAA must make similar improvements in its oversight of repair stations and its risk-based system for overseeing aircraft manufacturers' suppliers. A key issue in both cases is that FAA's oversight was inadequate in keeping up with dynamic changes occurring in those industries.

Repair Stations

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 otherwise would 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 the manufacturers can provide, and because the manufacturers provide warranties for their products. However, in recent years, use of external repair facilities has become more prominent.

As we testified before this Subcommittee in June,[8] from 1996 to 2006, while total maintenance costs have fluctuated, air carriers continued to increase the percentage of maintenance dollars spent on outsourced maintenance—from 37 to 64 percent. In 2006, $3.7 billion of the $5.7 billion spent on maintenance was outsourced (see figure 2).

***Figure 2. Percentage Increase in Outsourced Maintenance for Major Air Carriers From 1996 to 2006***




Neither FAA nor the Department maintains 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[9] 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 still was focusing most of its inspections on the maintenance work that air carriers performed within their own facilities.

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. However, FAA cannot effectively implement a risk-based system for oversight of aircraft maintenance if it does not know where the maintenance is performed.

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[8] OIG Testimony Number CC–2007–076, "Aviation Safety: FAA Oversight of Foreign Repair Stations," June 20, 2007.

[9] OIG Report Number AV–2003–047, "Review of Air Carriers' Use of Aircraft Repair Stations," July 8, 2003.

In July 2003 and again in December 2005,[10] 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 subsequently developed new inspector guidance and air carrier processes to address this problem. However, this system does not provide FAA with the information it needs to target inspections to where the most maintenance is done because FAA does not require air carriers to report these data.

When carriers *do* report the data, FAA does not require that they include all repair stations performing critical component repairs or that inspectors validate the information. These efforts fall short of providing FAA with the information it needs. FAA officials stated they are still formulating the guidance language, however, it is unclear whether FAA will require air carriers to report volume data for repair stations that perform critical component repairs and require inspectors to validate the data.

Aircraft Manufacturers' Suppliers

In February, we reported[11] that since 1998 FAA has worked toward implementing a risk-based oversight system for aviation manufacturers. However, this system was implemented in FY 2003 and does not take into account the degree to which manufactures now use suppliers to make aviation products. FAA based the new system on historical manufacturing business models, in which manufacturers maintain primary control over the production of their aircraft rather than use suppliers to design and manufacture extensive portions of aircraft.

We found weaknesses throughout FAA's oversight system for manufacturers and their suppliers. First, FAA has not ensured that manufacturers are providing oversight of their suppliers. Manufacturers are the first line of defense in ensuring the products used on their aircraft meet FAA and manufacturers' standards. Yet, during the 24 months preceding our review, manufacturers had not audited 6 of the 21 critical parts suppliers we visited.

Second, FAA does not require inspectors to perform enough audits of suppliers to determine how well manufacturers' quality assurance systems are working. FAA's guidance for overseeing manufacturers' quality assurance systems only requires inspectors to perform, at most, four supplier audits, regardless of how many suppliers the manufacturer uses.

Supplier control audits are a primary tool that FAA uses to assess how well manufacturers' oversight systems are working. Equally important, these audits function as a second layer of control for preventing improperly produced parts from entering the market. However, as shown in the table below, in each of the last 4 years, FAA has inspected an average of *1 percent* of the total suppliers used by the five manufacturers we reviewed.

At FAA's current surveillance rate, it would take inspectors at least 98 years to audit every supplier once. This is particularly troubling because manufacturers are not evaluating these suppliers frequently or comprehensively.

***Table 1. Number of Supplier Audits Completed by FAA for Five Major Manufacturers***

| | | Supplier Audits Completed by FAA | | | | |
|---|---|---|---|---|---|---|
| **Manufacturer** | **No. of Supplier Facilities[a/]** | **FY 2003** | **FY 2004** | **FY 2005** | **FY 2006** | **Avg. % Per FY** |
| A | 4,012 | 2 | 1 | 7 | 4 | 1% |
| B[b/] | 2,553 | 31 | 26 | 15 | 27 | 1% |
| C | 706 | 5 | 4 | 4 | 6 | 1% |
| D | 489 | 5 | 3 | 1 | 2 | 1% |
| E | 367 | 0 | 2 | 3 | 2 | 1% |

a/ Number of supplier facilities based on information obtained for 2004.

b/ This manufacturer operates seven separate manufacturing divisions. As a result, FAA evaluated the seven divisions separately for risk assessment purposes, which resulted in more supplier control audits.

Source: FAA's National Supplier Control Audit Schedules, FY 2003-2006

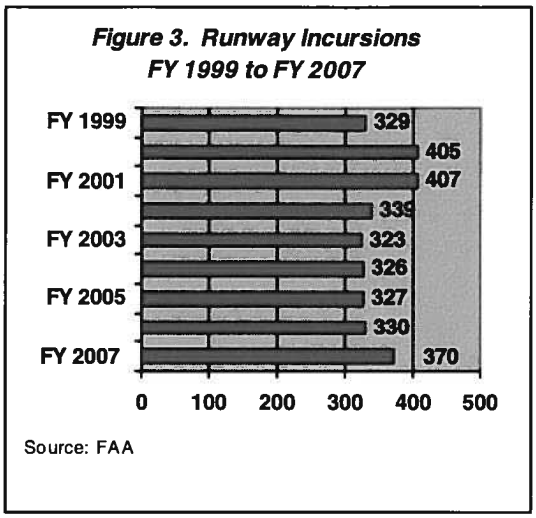
[10] OIG Report Number AV–2006–031, "Review of Air Carriers' Use of Non-Certificated Repair Facilities," December 15, 2005.

[11] OIG Report Number AV–2008–026, "Assessment of FAA's Risk-Based System for Overseeing Aircraft Manufacturers' Suppliers," February 26, 2008.

Third, the systemic deficiencies we identified at the 21 supplier facilities we visited indicate that manufacturers and FAA need to strengthen their oversight of these facilities. For example, nearly half (43 percent) of the suppliers had deficiencies in their tool calibration and employee training programs. Deficiencies in these areas could impact the quality of the parts these suppliers produce.

**Improving Runway Safety**

From 1999 to 2001, runway incursions increased at alarming rates. To its credit, FAA took decisive action that helped reduce these incidents—it established regional runway safety offices, and initiated aggressive educational programs for pilots. However, since 2003, the number of runway incursions has begun climbing again, reaching a high of 370 in FY 2007—a 12-percent increase over FY 2006 (see figure 3).




During the last 10 years, our work has showed that a range of actions are needed to enhance the margin of safety on the Nation's runways. We have identified four specific areas where FAA and other aviation users should focus runway safety efforts.

- Implementing existing and new FAA systems to alert controllers and pilots to potential runway incursions.
- Making airport-specific infrastructure and procedural changes, such as improved runway signage and markings.
- Reinvigorating FAA's national program for improving runway safety and identifying and correcting root causes of runway incursions.
- Addressing controller human factors issues, such as fatigue and attention, through improved training.

*Implementing Existing and New FAA Systems To Improve Runway Safety*

New technology is considered by many to be a key factor in the mix of solutions for improving runway safety. However, our work on three major FAA acquisitions for improving runway safety has shown that there are significant concerns as to what can be effectively deployed within the next several years. For example, a key technology for preventing runway accidents—the Airport Surface Detection Equipment—Model X (ASDE–X)—may not meet its cost and schedule goals to commission all 35 systems for $549.8 million by 2011.

ASDE–X is a ground surveillance system intended to alert controllers to potential ground collisions. As of FY 2007, FAA expended about $314 million (57 percent) and obligated about $378 million (69 percent) of the planned funding. However, FAA only deployed 11 of 35 systems for operational use.

FAA must now deploy the last 24 systems at the more complex airports with less than half of the planned funds. We reported in October[12] that ASDE–X may not achieve all planned safety benefits. These include maintaining operational capability during inclement weather (when it is most needed) and alerting controllers to possible collisions on intersecting runways and taxiways ("hot spots" for runway incursions).

Another significant technology under development is Runway Status Lights (RWSL). RWSL technology uses automated, surveillance-driven lights that work as independent, direct warning systems to alert pilots in departing or crossing aircraft that the runway is occupied. Lights illuminate red when it is unsafe to cross or depart from a runway, thus increasing the crew's situational awareness and decreasing the potential for runway incursions caused by pilot deviations.

In January, we reported[13] that RWSL is a viable technology for reducing runway incursions. At Dallas-Fort Worth International Airport (DFW), the test site for RWSL, the system met or exceeded all performance expectations. In addition, all system users we met with agreed that RWSL work as intended and have no known negative impact on capacity, communication, or safety.

However, the technology is still in the early stages of implementation, and much work remains for FAA to achieve full deployment. A key issue is that RWSL require ASDE–X fusion data for its surveillance capabilities and therefore depends on the successful deployment of that technology. In addition, RWSL have not been tested on intersecting runways.

One of the most promising technologies on the horizon is the Automatic Dependent Surveillance-Broadcast (ADS–B)—a satellite-based technology that allows aircraft to broadcast their position to other aircraft and ground systems. When displayed in the cockpit, ADS–B information can provide a "second set of eyes" by including the pilot in the loop to detect and alleviate hazardous surface situations.

In August 2007, FAA took an important step by awarding a contract for the development and installation of the ground infrastructure for ADS–B. However, as we testified in October,[14] ADS–B ground infrastructure will not be in place until 2013, and users will not be required to equip with the needed avionics until 2020. A clear transition path for moving forward with ADS–B with well-defined costs and benefits does not yet exist.

*Making Airport-Specific Infrastructure and Procedural Changes*

The uncertain timeline and emerging risks of FAA's runway safety technologies underscore the need to explore other near-term solutions to improve runway safety. We found that there are several relatively low-cost, simple, airport-specific changes that can help reduce the risk of runway incursions. These include airport infrastructure changes as well as procedural changes to daily airport operations.

In May 2007, we reported[15] on runway safety efforts at four airports that had experienced a surge in runway incursions in 2005 and 2006—Boston, Chicago, Philadelphia, and Los Angeles. We found that airport operators at all four locations responded to the rise in runway incursions by improving airport lighting, adding better signage, and improving runway and taxiway markings. This included upgrading surface-painted, hold-short surface markings in advance of FAA' s mandatory date of June 2008.

Some airports also added unique signage to prevent runway incursions. For example, at Chicago O'Hare, the airport operator added above-ground signage near the general aviation ramp instructing general aviation aircraft to hold and contact the ground controller before continuing. This will help prevent general aviation pilots from inadvertently taxiing onto an active runway.

We also found that airport operators and FAA managers made the following procedural changes to daily operations:

- Air Traffic managers adopted tools for tracking controller performance and increased the minimum time for management to work in the operational area.
- Airport operators tightly controlled the testing of drivers in the airfield driver certification process and imposed punitive action for non-compliance of driver rules.

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[12] OIG Report Number AV–2008–004, "FAA Needs To Improve ASDE–X Management Controls to Address Cost Growth, Schedule Delays, and Safety Risks," October 31, 2007.

[13] OIG Report Number AV–2008–021, "FAA's Implementation of Runway Status Lights," January 14, 2008.

[14] OIG Testimony Number CC–2007–100, "Challenges Facing the Implementation of FAA's Automatic Dependent Surveillance-Broadcast Program," October 17, 2007.

[15] OIG Report Number AV–2007–050, "Progress Has Been Made in Reducing Runway Incursions, but Recent Incidents Underscore the Need for Further Proactive Efforts," May 24, 2007.

- Airport operators and the FAA Runway Safety Office created maps or brochures to highlight potentially hazardous intersections (known as hot spots) on the airport movement area.

Results through FY 2007 at Boston and Philadelphia show a significant decrease in runway incursions (more than half at both locations). However, results are not as clear at Los Angeles International Airport (which is still completing airfield construction) and Chicago O'Hare (which is still struggling with extremely complex runway layouts). At Los Angeles, the number of runway incursions remained steady but at Chicago the number increased.

While the implementation of these actions varied among airports, they all had the potential to reduce runway incursions system-wide. However, other than informal networking, there were no formal means for the various users to share actions that had reduced or prevented runway incursions at their locations.

Our recommendations included developing an automated means, such as establishing an intranet site through the Regional Runway Safety Offices, to share best practices for reducing runway incursions with all users of the National Airspace System. In response, FAA implemented a best practices website for runway safety in December 2007.

In addition, in August 2007, FAA convened a task force of pilots, airport managers, and controllers to address runway safety issues. The group agreed on a short-term plan to improve runway safety, which focuses on (1) conducting safety reviews at airports based on runway incursion and wrong runway departure data, (2) deploying improved airport signage and markings at the 75 busiest, medium-to large-sized airports (ahead of the June 2008 mandated deadline), and (3) reviewing cockpit and air traffic clearance procedures.

In January 2008, FAA reported that the aviation industry has initiated and completed significant short-term actions to improve safety at U.S. airports. For example, safety reviews of the top 20 high-risk airports were completed, resulting in more than 100 short-term initiatives and numerous mid- and long-term initiatives. Also, 71 of the same 75 busiest airports completed enhancements to surface markings, and airlines committed to providing pilots with simulator training or other realistic training for taxiing aircraft from the terminal to the runway.

*Reinvigorating FAA's National Program for Improving Runway Safety*

From 1998 to 2001, we reported that runway incursions were increasing at alarming rates. To its credit, FAA took decisive action, and the total number of runway incursions decreased from a high of 407 in FY 2001 to a low of 323 in FY 2003. During our review at the Boston, Chicago, Los Angeles, and Philadelphia airports, however, we found that many important national initiatives for promoting runway safety (undertaken by FAA as early as 2000) had waned as the number of incidents declined and FAA met its overall goals for reducing runway incursions.

For example, FAA established the Runway Safety Office in 2001 to provide central oversight and accountability for implementing runway safety initiatives throughout the Agency. However, at the time of our review, that office had not had a permanent Director for almost 3 years. In addition, the office was reorganized and realigned twice since FAA established the Air Traffic Organization in February 2004, and its staff was reduced by half, including the elimination of two Headquarters Division offices within the Office of Runway Safety.

We also found that FAA no longer prepares its National Plan for Runway Safety, which defined the Agency's strategy and prioritized efforts to reduce runway incursions. The last time FAA prepared this plan was in 2002.

FAA has begun addressing many of our concerns. For example, in August 2007, FAA hired a permanent director for its Runway Safety Office and plans to reinstate its National Plan for Runway Safety. Although this is a good start, sustained commitment along with adequate resources and executive level attention will be key to achieving results.

*Addressing Controller Human Factors Issues Through Improved Training*

Addressing human factors issues, such as fatigue and situational awareness, is important to improving runway safety. In its investigation of Comair flight 5191, the NTSB expressed concerns that the lone controller on duty at the time of the accident had about 2 hours of sleep before his shift. As a result of its investigation at Lexington, the NTSB added controller fatigue to its "Most Wanted List" in 2007 and made two recommendations to FAA concerning controller fatigue.

As we testified in February before the House Aviation Subcommittee,[16] controller staffing and training will be key watch items during the next 10 years as FAA begins executing its plans to hire and train 17,000 new controllers through 2017. Training new controllers on human factor issues (such as addressing fatigue and increasing attention) as well as technical aspects of air traffic control (such as airspace, phraseology, and procedures) will become increasingly important as FAA begins to address the large influx of new controllers.

We also reported in May that FAA needed to focus on controller human factors issues and training to improve individual, team, and facility performance. In its last National Plan for Runway Safety, FAA cited human factors and lack of controller teamwork as significant contributing factors of runway incursions caused by controller operational errors. However, we found that FAA had made little progress in addressing human factors training to help reduce the risk of runway incursions caused by controllers.

To its credit, FAA has successfully implemented an important training initiative—increasing the use of training simulators at towers. Tower simulators can improve overall facility performance by reducing runway incursions through enhanced initial and proficiency training. They provide controllers with a virtual replica of the tower environment, which can be used to train controllers using real-life scenarios such as day-versus-night operations, varying weather conditions, different runway configurations, or emergency situations.

Simulators also can be used to model changes in airport configurations and procedures. For example, Boston Logan used a tower simulator to help establish necessary safety procedures for a newly constructed runway. Likewise, the National Aeronautics and Space Administration used a tower simulator to study alternatives for improving runway safety at Los Angeles and evaluate the effectiveness of adding a center-field taxiway between its parallel runways. FAA recently installed tower simulators at four towers—Chicago O'Hare, Miami, Ontario, and Phoenix. Results thus far indicate that simulators are a valuable training tool.

FAA plans to install 12 additional simulators this year (6 at large airports and 6 at the FAA Academy) and 12 next year (at other airports). FAA needs to ensure that this initiative remains on track to capitalize on the significant success this training has demonstrated.

We are reviewing several other issues concerning controller human factors. At the request of the House Aviation Subcommittee Chairman, we are reviewing the rate and root causes of controller training failures (developmental controllers who fail training either at the FAA Academy or at their assigned facility). At the request of Senator Durbin of Illinois, we are reviewing factors that could affect controller fatigue. We are focusing our current efforts at Chicago O'Hare Tower, Chicago TRACON, and Chicago Center but may review other locations and FAA's national efforts based on the results of our work at Chicago.

**Addressing Attrition Within Two of FAA's Critical Workforces**

A key issue that will affect FAA for at least the next 10 years is addressing attrition in two of its critical safety workforces—air traffic controllers and aviation safety inspectors. FAA currently is training more new controllers than it has in the past 15 years. The percentage of developmental controllers within the controller workforce has increased from about 15 percent in 2004 to about 25 percent in 2007.

As a result, FAA is facing a fundamental transformation in the composition of its controller workforce that will require improvements in its facility training program. A critical piece for addressing controller attrition is facility training. However, we found that FAA's facility training program continues to be extremely decentralized and the efficiency and quality of the training varies extensively from one location to another. We found similar problems in 2004.

FAA also is facing substantial safety oversight challenges due to potential attrition in its inspector workforce. FAA has about 4,100 inspectors to oversee a dynamic and rapidly changing industry, which includes 114 commercial air carriers, almost 5,000 foreign and domestic repair stations, more than 700,000 active pilots, and more than 1,600 approved manufacturers.

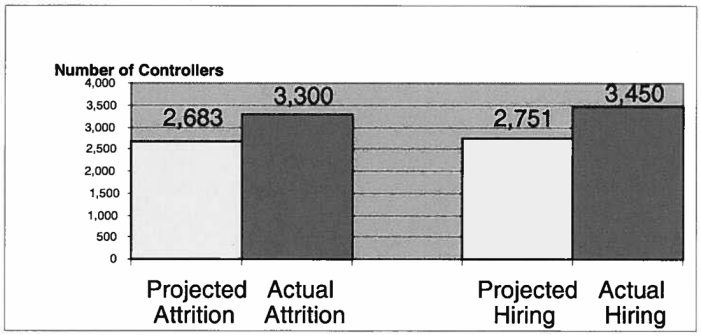
*Addressing Controller Attrition Through Improvements in Facility Training*

The long-expected surge in controller attrition has begun. Since 2005, 3,300 controllers have left the Agency. The total rate of attrition was 23 percent higher than FAA projected; however, FAA has accelerated its hiring efforts to fill vacancies. Since 2005, FAA has hired 3,450 new controllers–25 percent more than projected.

[16] OIG Testimony Number CC–2008–043, "FAA's Fiscal Year 2009 Budget Request: Key Issues Facing the Agency," February 7, 2008.

Still, FAA faces a major challenge as it must hire and train 17,000 new controllers through 2017. Figure 4 shows FAA's estimates and actual numbers for controller attrition and new controller hiring from FY 2005 through FY 2007.

***Figure 4. Controller Attrition and Hiring Projected Versus Actual (FY 2005 to FY 2007)***




Source: FAA

As a result of the high level of controller attrition, FAA is facing a fundamental transformation in the composition of its controller workforce. The overall percentage of controllers in training has grown substantially during the past 3 years. From April 2004 to December 2007, the overall size of the controller workforce remained constant; however, during the same period, the number of controllers in training increased by 1,375, or 62 percent, while the total number of CPCs, decreased by 1,302. New controllers now represent about 25 percent of the workforce (up from 15 percent in 2004). However, that percentage can vary extensively by location—from as little as 2 percent (*e.g.,* Boston TRACON) to as much as 50 percent (*e.g.,* Las Vegas TRACON).

As we testified in February,[17] a major challenge in addressing the attrition surge will be to train new controllers to the CPC level at their assigned locations. Facility training can take up to 3 years and is the most expensive part of new controller training. Training new controllers to the CPC level is important for two reasons: (1) only CPCs are qualified to control traffic at *all* positions of their assigned area, and (2) only CPCs certified for at least 6 months (at their assigned location) can become on-the-job training (OJT) instructors for other new controllers. FAA must have enough OJT instructors at all locations if it is to achieve its ambitious hiring and training plans for the next 10 years and beyond.

It is important to note that new controllers who have completed portions of training and have been certified on a position can independently staff that position. However, controllers are not qualified CPCs until they have certified on all positions within their assigned area. In addition, using position-qualified controllers extensively to staff positions can lengthen the time required for them to become CPCs since they are not training on other new positions.

We recently completed an audit of FAA's controller facility training program—our second review of this program since 2004. Overall, we found that the program continues to be extremely decentralized and the efficiency and quality of the training varies from one location to another. We found similar problems in 2004. FAA is taking actions at the national level to get this important program on track, but many of FAA's efforts are still in the early stages. To achieve its goals for the controller workforce, FAA will need to take the following actions:

- *Clarify responsibility for oversight and direction of the facility training program at the national level.* Facility training is primarily the responsibility of the Air Traffic Organization's Vice President for Terminal Services and Vice President for En Route and Oceanic Services. However, the Vice President for Acquisition and Business Services oversees new controller hiring and the FAA Academy training program, and the Senior Vice President for Finance oversees the devel-

[17] OIG Testimony CC–2008–043, "FAA's Fiscal Year 2009 Budget Request: Key Challenges Facing the Agency," February 7, 2008.

opment of the Controller Workforce Plan. Both have key roles in the controller training process as well. As a result of these overlapping responsibilities, we found there is significant confusion at the facility level.

During our review, facility managers, training managers, and even Headquarters officials were unable to tell us who or what office was responsible for facility training. FAA needs to clarify responsibility for oversight and direction of the facility training program at the national level and communicate those roles to facility managers.

- *Establish realistic standards for the level of developmental controllers that facilities can accommodate.* Given the various sizes and complexities of FAA' s more than 300 facilities, FAA needs to identify (by facility) how many developmental controllers facilities can realistically accommodate. FAA must consider several factors, such as: (1) the number of available OJT instructors, (2) available classroom space, (3) the number of available simulators, (4) all training requirements, and (5) the number of recently placed new personnel already in training.
- *Implement key initiatives proposed in its 2004 Controller Workforce Plan.* FAA has not implemented key initiatives to improve facility training that it proposed in the 2004 Controller Workforce Plan. These include, "developing, implementing, and enforcing a policy that assigns facility training as a priority second only to operations." This was to be accomplished by "(1) placing developmental controllers only at facilities that had available training capacity, (2) requiring facility managers to suspend training only for critical operational necessities, and (3) establishing nominal time-to-certify metrics and holding managers accountable for achieving those targets." However, FAA never issued this policy.

  In addition, FAA has not comprehensively evaluated its facility training program. In its 2004 Controller Workforce Plan, FAA stated it would "conduct a thorough review of facility training to ensure it begins where the Academy ends. This review will take into consideration other efficiency gains identified in this plan and will result in facility training programs tailored to meet the needs of developmental controllers of the future." FAA intended for this effort to help reduce the time it takes new controllers to become CPCs. However, FAA never conducted the evaluation. FAA must follow through with this evaluation and its Controller Workforce Plan initiatives.

*Addressing Inspector Attrition and Implementing Staffing Models*

FAA is also facing substantial safety oversight challenges due to potential attrition in its inspector workforce. FAA has about 4,100 inspectors to oversee a dynamic and rapidly changing industry, which includes 114 commercial air carriers, almost 5,000 foreign and domestic repair stations, more than 700,000 active pilots, and more than 1,600 approved manufacturers. Last year, FAA's hiring efforts kept pace with retirements, and the Agency ended the year with 133 additional inspectors compared to FY 2006 levels. However, FAA must continue to closely oversee this effort since nearly half of the inspector workforce will be eligible to retire in the next 5 years.

FAA will never have an inspector workforce that is large enough to oversee all aspects of the industry, so it is important for the Agency to place inspectors where they are most needed. To maximize its limited inspector resources, FAA has been working toward risk-based safety oversight systems for air carriers, repair stations, and manufacturers. These systems target inspector resources to areas of greatest risk. However, unless FAA develops a reliable staffing model, it will not be able to effectively use its inspectors. At the direction of Congress, the National Research Council completed a study[18] of FAA's current methods for allocating inspector resources in September 2006 and recommended that FAA develop a new staffing model.

It has been more than 1 year since the Council study, and FAA is still in the early stages of developing a new staffing method. FAA has established an interim target date to assess current staffing methods and begin identifying the elements of the next generation staffing tool by September 2008.

FAA recently finalized milestones to develop and implement the new model and plans to begin using it by October 2009. Making measurable progress toward a new staffing model is a key watch item, and we will continue to monitor this important initiative.

That concludes my statement, Mr. Chairman, I would be happy to address any questions you or other Members of the Subcommittee may have.

[18] "Staffing Standards for Aviation Safety Inspectors," September 20, 2006.

Senator ROCKEFELLER. Thank you very much.

And now Mr. Chealander.

**STATEMENT OF HON. STEVEN R. CHEALANDER, MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD**

Mr. CHEALANDER. Thank you and good morning, Chairman Rockefeller, Ranking Member Hutchison, Chairman Inouye, and Vice Chairman Stevens. Thank you for allowing me the opportunity to present testimony on behalf of the National Transportation Safety Board.

Let me begin by discussing runway safety and, in particular, runway incursions and excursions because of the number and potential seriousness of these events.

Improper or misunderstood instructions, human error, continues to place aircraft vehicles and their passengers in danger despite ongoing improvements. As an example of human error, the world's deadliest runway incursion, which remains the world's deadliest aviation accident, occurred in March 1977, and 583 lives were lost in a collision between two jumbo jets on a runway at Tenerife in the Canary Islands. Human error.

Since October 1, 2007, all surface incidents are being classified as runway incursions. From January 2007 through March 31st of 2008, 441 runway incursions were reported. More importantly, since October of 2007, there have been 15 A or B categorized incursions, which are the most serious. This is more than double the amount during the same time last year.

In July 2000, the Safety Board made recommendations to address the issue of providing direct warning to flight crews. This direct warning is crucial because it gives both flight crews and controllers increased time to react. Until a system is in place that provides direct warning to pilots, the potential for this type of a disaster will continue to be high.

Since 2005, the FAA has been conducting field tests on Runway Status Lights at the Dallas-Fort Worth and San Diego airports. Initial test results have been promising and the FAA is extending these tests to more complex airports such as Boston, Chicago O'Hare, and Los Angeles International.

The FAA's NPRM on Automatic Dependent Surveillance Broadcasts, better known as ADS–B, published in 2007 mandates all aircraft be equipped with ADS–B Out although not until the year 2020. Moreover, the FAA does not plan to mandate ADS–B In at all. For ADS–B to provide the maximum safety benefit, the system should support both ADS–B Out and ADS–B In. ADS–B In provides surface conflict warnings directly to pilots in the cockpit while ADS–B Out provides basic aircraft separation information.

The Safety Board is encouraged by the FAA's progress in areas such as lighting and improved signage at airports. However, implementation of other technologies has been slow.

In 2000, the Safety Board recommended that all runway crossings be authorized only by specific air traffic control clearance and that controllers issue a takeoff clearance only after the previous runway has been crossed. Yet, the FAA has not implemented either procedural change. If those procedures had been implemented, the

Comair accident in Lexington, Kentucky, which claimed 49 lives, may not have occurred.

The Safety Board also investigated several runway excursions, including an accident involving a Southwest Boeing 737 that killed one person at Chicago's Midway Airport in 2005.

The Safety Board has been focusing on FAA oversight and surveillance of operators and aircraft maintenance for over 20 years.

For example, in the Alaska Airlines Flight 261 accident off the coast of California with 88 fatalities, FAA oversight of the carrier's maintenance program was an issue.

In the Chalk's Ocean Airways Flight 101 accident in Miami Florida, with 20 fatalities, FAA oversight of the carrier's maintenance program was an issue.

Additionally, American Airlines Flight 1420 accident in Little Rock, Arkansas, which claimed 11 fatalities, is an example of an issue with operations oversight.

The Safety Board has examined FAA oversight during all of its accident investigations. For instance, in the past 10 years, the Board has issued 29 recommendations on maintenance activities alone.

That concludes my testimony. Thank you for the opportunity. I would be happy to answer any questions you may have.

[The prepared statement of Mr. Chealander follows:]

PREPARED STATEMENT OF HON. STEVEN R. CHEALANDER, MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD

Good morning, Chairman Rockefeller and Ranking Member Hutchison. Thank you for allowing me the opportunity to present testimony on behalf of the National Transportation Safety Board. I am privileged to represent an agency that is dedicated to the safety of the traveling public.

As you know, the Safety Board is charged with investigating aviation incidents and accidents, determining their probable cause, and making recommendations to prevent similar accidents from happening again. The Board is concerned about key safety issues including: runway incursions, runway excursions, icing conditions, fuel tank inerting, human fatigue, and maintenance of aircraft.

The world's deadliest runway incursion accident, which remains the world's deadliest aviation accident, occurred in March 1977 when two passenger jumbo jets collided on a runway at Tenerife, Canary Islands, causing the deaths of 583 passengers and crew. The deadliest U.S. runway incursion accident involving two aircraft was a collision between a USAir 737 and a Skywest Metroliner commuter airplane at Los Angeles International Airport (LAX) in February 1991, which killed 34 people. Another accident, involving a Comair Bombardier CL600 that departed the wrong runway on August 27, 2006, killed 49 people in Lexington, Kentucky. The Safety Board has also investigated several other runway excursions including the accident involving a Southwest Boeing 737 that killed one person at Chicago's Midway Airport.

**Runway Incursions**

On October 1, 2007, the Federal Aviation Administration (FAA) adopted the International Civil Aviation Organization's definition of runway incursion. Prior to that date, the FAA classified events that did not result in a loss of required separation as "surface incidents," not incursions. Incursions required a loss of separation with another aircraft, person, object, or vehicle. Since October 1, however, all surface incidents are now classified as runway incursions and are categorized based on the severity of the incident. Category A and B incursions represent the highest likelihood of a collision. From January 2007 through March 31, 2008, 441 runway incursions were reported, with 15 of those classified as a category A or B. That's more than twice as many as were reported during the same time last year (7).

Between May and October 2007, the Safety Board investigated seven serious runway incursions involving 792 people onboard those airplanes. Most notably, in May 2007, there was a runway incursion that occurred about 1:30 in the afternoon at

San Francisco International Airport involving a Republic Airlines Embraer 170 and a Skywest Embraer 120 Brazilia. These two aircraft, carrying 92 people, nearly collided in the intersection of runways 1 left (L) and 28 right (R). The tower controller forgot about Skywest when he cleared Republic for takeoff from an intersecting runway. Skywest came to a stop in the runway intersection and Republic lifted off and overflew Skywest by about 35 feet. Another incident occurred on July 11, 2007 at about 2:30 in the afternoon when a United Airbus A320 and a Delta Airlines Boeing 757 almost collided in the intersection of runway 9L and taxiway M at the Fort Lauderdale-Hollywood Airport, Florida. Delta was inbound for landing on runway 9L and United was taxiing for departure on the same runway. The United crew missed a turn, and was heading toward the runway when the tower controllers told United to stop and Delta to go around. Although Delta touched down briefly, the crew was able to initiate a go-around and a collision was averted by less than 100 feet. Alert controllers and quick actions by the crews saved 307 people from a catastrophic accident. Incursions occur because both pilots and controllers make mistakes. Improper or misunderstood instructions continue to place aircraft, vehicles, and their passengers in danger—despite improved signage, more visible painted runway markings, ongoing safety briefings and seminars for controllers and pilots, and informational brochures. The reason is simple and complex—human error. Pilots may misunderstand a clearance or read it back incorrectly and controllers fail to catch the error. Pilots may take a wrong turn when they are taxiing. Controllers may clear an aircraft to take off or land on a runway already occupied by a vehicle or another aircraft.

There isn't any one single solution that will eliminate the problem of runway incursions. In July 2000, the Safety Board made recommendations to attack the issue in a variety of ways, including procedural changes, educational efforts, and technology improvements that provide a direct warning to the flight crews. This direct warning is crucial because it gives both controllers and those operating the aircraft increased time to react. Information needs to be provided directly to the flight crews as expeditiously as possible to prevent runway accidents. The issue is one of reaction time. Safety Board investigations have found that AMASS/ASDE–X are not adequate to prevent serious runway collisions, because too much time is lost routing valuable information through air traffic control. After an alert, the controller must determine the nature of the problem, determine the location, identify the aircraft involved, and determine what action to take. Only after all of these determinations have been made can appropriate warnings or instructions be issued. The flight crew must then respond to the situation and take action. Simulations of AMASS performance using data from actual incursions show that alerts may occur as little as 8 to 11 seconds before a potential collision. In recent incidents, AMASS did not alert controllers in time to be effective, and the situations were instead resolved by flight crew-initiated actions. An example of this was the San Francisco accident previously mentioned. Until there is a system in place to control ground movements of all aircraft with direct warning to pilots, the potential for this type of disaster will continue to be high.

Since 2005, the FAA has been conducting field tests of Runway Status Lights at the Dallas/Fort Worth International Airport and San Diego International Airport since 2006. Red lights activated on the runway when an aircraft was taking off, landing, or crossing an active runway giving information directly to the pilots. Initial test results have been promising and the FAA is extending those tests to more complex airports such as Boston, Chicago O'Hare and Los Angeles International Airports. The FAA is also testing final approach runway occupancy signals that alert pilots on final approach when the runway is occupied. It is also reviewing a flight deck-based direct warning system. The Safety Board has provided favorable assessments of that technology.

Although the Board has been encouraged by the recent progress, it has been over 7 years since these recommendations were issued. Yet it has been only in the past few years that the FAA has started evaluating technologies that provide direct warnings to the cockpit. Further, while these technologies may offer added safety, they are many years away from possible national implementation.

Additionally, since 2007, the FAA has stated that ADS–B (Automatic Dependent Surveillance-Broadcast) would mitigate the number and severity of runway incursions. On September 9, 2005, the FAA officially committed to establishing ADS–B as the basis for air traffic control in the future. On October 5, 2007, the FAA published a Notice of Proposed Rulemaking (NPRM) that proposed performance requirements for certain avionics equipment on aircraft to facilitate the use of ADS–B. According to the NPRM, ADS–B will be available nationwide in 2013 for aircraft surveillance by FAA and Department of Defense air traffic controllers. ADS–B will be very beneficial for expanding surveillance coverage to areas of the United States

that are not covered now, such as the Gulf of Mexico, Hawaii, and Alaska. However, in order for ADS–B to provide maximum safety benefits, the system should support both ADS–B Out and ADS–B In. ADS–B Out provides basic aircraft information (location, altitude, etc.) to air traffic controllers in order to provide traffic separation. ADS–B In would permit users to use additional services such as obtaining datalinked weather and traffic information, and would also provide a means of transmitting surface conflict warnings directly to pilots via the ADS–B In communications link. However, the NPRM states that aircraft are not required to be equipped with ADS–B Out until 2020 and the FAA will not mandate ADS–B In at this time because, according to the NPRM, it "has not been identified as a requirement for maintaining the safety and efficiency of National Airspace System (NAS) operations." The NPRM further states that operators may equip their aircraft with ADS–B In "if they so choose."

The Safety Board is disappointed that this NPRM does not require ADS–B In which would be instrumental in providing additional safety information that would prevent incidents such as runway incursions. All of the runway incursion prevention technology being developed and tested by the FAA that would give a direct warning to the cockpit, such as Runway Status Lights and the final approach occupancy signal, and ADS–B are years from being installed and they will not be installed at all airports with passenger service. The Safety Board believes that the ability of ADS–B In to support data sharing between aircraft and controllers would be a major contributor to improved situational awareness and would reduce the likelihood of both airborne and surface conflicts.

**Actions Remaining**

The FAA has made progress with lighting and improved signage at airports, but some basic improvements in air traffic control procedures are needed. In July 2000, the Safety Board recommended that all runway crossings be authorized only by specific air traffic control clearance and that controllers issue a takeoff clearance only after the previous runway has been crossed. Both of those recommendations are contained in the Manual on the Prevention of Runway Incursions prepared by the International Civil Aviation Authority and is the guidance material used internationally for implementing national or local runway safety programs. Yet, the FAA has not implemented either procedural change. If those procedures had been implemented, the Comair accident in Lexington, Kentucky may not have occurred.

The Safety Board supports the use of ADS–B and believes that ADS–B Out will provide a safety benefit in the NAS in areas without sufficient radar coverage. However, the adoption of ADS–B In, direct delivery of warnings to aircraft pilots via datalink, and recommended procedural changes will increase the level of safety during ground operations and should be expeditiously incorporated in the FAA's development planning.

**Runway Excursions**

Recent accidents, such as the December 2005 Southwest Airlines runway excursion at Midway Airport, indicated that the Safety Board should broaden its runway safety efforts to include runway excursions. Over the last 10 years, 73 accidents involving turbine-engined aircraft were reported resulting in 15 fatalities. Runway excursions only need to be reported to the Safety Board if there was substantial damage to the airplane, serious injury to a person, or if an emergency evacuation was required, so there are most likely additional excursions during this period that we are not aware of.

Landing distance calculations are critical to flight safety, especially when runway conditions limit braking effectiveness. As a result of the Southwest Airlines accident, the Safety Board issued an urgent recommendation on January 27, 2006, asking the FAA to prohibit operators from using reverse thrust credit in landing performance calculations to ensure adequate landing safety margins on contaminated runways. The FAA responded that it would issue an Operations Specification that would establish mandatory actions by aircraft operators and meet the intent of the recommendation; however, it subsequently decided to issue only a Safety Alert For Operators (SAFO). SAFOs are not regulatory and compliance is therefore voluntary.

On October 4, 2007, the Safety Board superceded the previous urgent recommendation, issuing a new recommendation asking that the FAA require crews to make a landing distance assessment with an adequate safety margin for every landing. To date the FAA has not made this a requirement.

In the U.S. during the last 2 years, there were five runway excursion accidents involving turbine-powered aircraft, resulting in one fatality. However, these events involved 247 other crewmembers, passengers, or people on the ground who happened to be in the area when the excursions occurred. The NAS cannot continue

to depend on the last minute alertness of pilots and controllers, whose actions have helped avoid several runway incidents that could have been catastrophic. We need the extra protection of additional procedures and advanced technology to compensate for human mistakes.

**Action Remaining**

- Require operators to conduct arrival landing distance assessments before every landing based on existing performance data, actual conditions, and incorporating a minimum safety margin of fifteen percent.

*Reduce Dangers to Aircraft Flying in Icing Conditions*

The 1994, in-flight icing encounter and subsequent loss of control and crash of a commuter airliner in Roselawn, Indiana, which claimed 68 lives, prompted the Safety Board to examine the issue of airframe structural icing and conclude that the icing certification process has been inadequate because the process has not required manufacturers to demonstrate the airplane's flight handling and stall characteristics under a realistic range of adverse ice accretion/flight-handling conditions. The FAA did not have a systematic and proactive approach to the certification and operational issues of turbine-engine-driven transport-category airplane icing.

The consequences of operating an airplane in icing conditions without first having thoroughly demonstrated adequate handling/controllability characteristics in those conditions are sufficiently severe that they warrant a thorough certification test program, including application of revised standards to airplanes currently certificated for flight in icing conditions.

As a result of the Roselawn accident, the Safety Board called on the FAA to revise the icing criteria and icing testing requirements necessary for an airplane design to be approved within the United States, and the operational requirements that specify under what icing conditions it is permissible to operate an aircraft.

On July 25, 2007, the FAA issued a final rule titled "Airplane Performance and Handling Qualities in Icing Conditions," which became effective October 9, 2007. On September 10, 2007, the FAA issued Advisory Circular (AC) 25–25, "Performance and Handling Characteristics in the Icing Conditions Specified in Part 25, Appendix C." The AC provides detailed guidance on acceptable means of compliance with the new requirements. These actions were responsive to some aspects of the recommendations from the Roselawn accident. The FAA still needs to take the following actions:

- Revise Part 121, applicable to airplanes with takeoff weights less than 60,000 pounds, to address when to activate the ice protection system and when the flight crew should exit icing conditions.
- Develop Part 25 rules that include requirements to demonstrate that an airplane can safely operate in certain super-cooled large drop (SLD) conditions for an unrestricted time or can detect SLD and enable the flight crew to exit icing conditions; and
- Development of similar Part 23 rules after completing the Part 25 rulemaking.

The ARAC is still working on regulations concerning SLD and mixed-phase icing for both Part 25 and Part 23. The Safety Board has learned of FAA activities in response to recommendations concerning icing issued as a result of the February 16, 2005, crash of a Cessna Citation 560 during approach to landing in icing conditions at Pueblo, Colorado. This accident occurred in SLD conditions, and FAA and Cessna flight testing in response to the investigation used procedures and tests suggested by the ARAC to analyze airplane handling characteristics in SLD conditions. This suggests that the FAA may be near developing and issuing regulations concerning SLD. However, the FAA has not provided any projected dates for development and issuance of an NPRM and final rule. The pace of the FAA's activities in response to these recommendations remains unacceptably slow, despite recent encouraging action.

**Actions Remaining**

- Complete efforts to revise icing certification criteria, testing requirements, and restrictions on operations in icing conditions; and
- Evaluate all aircraft certified for flight in icing conditions using the new criteria and standards.

*Eliminate Flammable Fuel/Air Vapors in Fuel Tanks on Transport-category Aircraft*

Center wing fuel tank explosions have resulted in 346 fatalities. Operating transport-category airplanes with flammable fuel/air vapors in fuel tanks presents an avoidable risk of explosion. A fuel tank design and certification philosophy that re-

lies solely on the elimination of all ignition sources, while accepting the existence of fuel tank flammability, is fundamentally flawed because experience has demonstrated that all possible ignition sources cannot be predicted and reliably eliminated. As a result of the TWA Flight 800 accident that occurred in July 1996, the Safety Board asked the FAA to develop and implement both long-term and short-term solutions to the fuel tank issue. Previously, fuel tank explosions occurred somewhere in the world approximately once every 52 months, but two explosions in the last 3 years have changed the average for the worse. In the 10 years since the TWA flight 800 accident, there have been three additional fuel tank explosions, illustrating the continuing need for reforms in this area.

In response to the long-term solution preventing flammable fuel/air vapors in fuel tanks the FAA commissioned the ARAC to evaluate design modifications, such as inerting, that would satisfy this recommendation. In its July 1998 final report, the ARAC concluded that inerting would achieve this goal, but at a cost of over $20 billion. The ARAC also concluded that inerting systems would be very difficult to retrofit into existing airplanes and recommended that the FAA continue to investigate a more cost-effective approach to reducing explosive vapors. A 2001 follow up study also concluded that the benefit of inerting could not be reasonably balanced by its cost. In May 2002, in contrast to the ARAC's reports, the FAA developed a prototype inerting system that required no moving parts, weighed less than 200 pounds, and could be retrofitted into existing airplanes at a fraction of the industry-estimated cost: the cost of this prototype system was only $100,000. The system has been flight tested by the FAA, NASA, Boeing, and Airbus, and the results indicate that fuel tank inerting is both practical and effective.

Although 11 years have passed since this recommendation was issued, the FAA's recent actions indicate positive movement, particularly in the development of a practical fuel tank inerting system. Boeing is making a flammability reduction system a basic feature in the design of the new 787 Dreamliner aircraft. Boeing has also designed a flammability reduction system and delivered these systems on production models of the 747 and 737 NG. Although the first B–737 equipped with a flammability reduction system was delivered on December 8, 2005, to Southwest Airlines, this system is an option, and many 737's currently being delivered are not equipped with this system. The next design to receive a flammability reduction system will be the B–777.

The FAA has developed a final rule to do some, but not all, of what the Safety Board has recommended. The proposed final rule is somewhat controversial and received close scrutiny from OST and OMB. The latest word is that OMB's review of the final rule will be completed by May 2008.

**Action Remaining**

- Complete rulemaking efforts to preclude the operation of transport-category airplanes with flammable fuel/air vapors in the fuel tank on all aircraft.

*Cockpit and Flight Data Recorders/Require Cockpit Video Recorders*

Flight recorders have proven themselves invaluable in providing crucial information during accident and incident investigations. Last month, the FAA issued a final rule, titled "Revisions to Cockpit Voice Recorder and Digital flight Data Recorder Regulations." The Board was pleased to see that all larger passenger airliners will be required to carry 2-hour cockpit voice recorders (CVRs), greatly expanding the current 30-minute requirement. But the rule stopped short of what the Board has recommended by not requiring that older 30-minute CVRs be replaced on existing commuter and corporate jet aircraft. The FAA did require that newly manufactured commuter and corporate jets come equipped with 2-hour CVRs.

The Board had asked that airliners be retrofitted with cockpit voice recorders that had an emergency 10-minute power supply in case of an electrical interruption, such as occurred on ValuJet Flight 592 in 1996 and Swiss Air Flight 111 in 1999. The FAA rule will require that newly manufactured airliners be so equipped, but declined to require retrofits again as recommended by the Board. The Board also called for certain configurations of microphones and dedicated channels in airliner cockpits, and for dual combination recorders, one in the front and one in the back of the plane, however those items are not addressed in the new rule. The FAA also did not address the Board's recommendations concerning cockpit video recorders.

The new rule calls for increased flight control position sampling rates on flight recorders, which should improve the quality of data available to investigators. Improvements in flight recorders has been on the Board's list of Most Wanted Safety Improvements since 1999.

*Reduce Accidents and Incidents Caused by Human Fatigue*

The Safety Board has long been concerned about the issue of operator fatigue in transportation and has stressed its concerns in investigation reports issued throughout the 1970s and 1980s. In 1989, the Board issued three recommendations to the Secretary of Transportation calling for research, education, and revisions to existing regulations. These recommendations were added to the Board's Most Wanted list in 1990, and the issue of fatigue has remained on the Most Wanted list since then. The Safety Board's 1999 safety study of DOT efforts to address operator fatigue continued to show that this problem was widespread. Operating a vehicle without the operator's having adequate rest, in any mode of transportation, presents an unnecessary risk to the traveling public. The laws, rules, and regulations governing this aspect of transportation safety are archaic in many cases and are not adequate to address the problem.

**Flight Crews**

In December 1995, the FAA issued an NPRM to update the flight and duty regulations for airline pilots; however, in the intervening 12 years, the regulations have not been revised. The FAA has attempted on three occasions to reach consensus with the industry on a proposed rule but has not succeeded. FAA's ARAC upon reviewing Part 135 regulations has recently made some recommendations to simplify and improve the duty time regulations for flight crews covered by Part 135. The FAA recently advised the Safety Board that it is developing an NPRM that incorporates the ARAC's recommendations; the NPRM will include a fatigue risk management system that provides an alternative to prescriptive limitations.

The Safety Board recommended 14 years ago that the FAA close a loophole in the regulations regarding hours of duty for flight crews that allowed crews to be on duty flying for much longer periods of time than allowed under Part 121 or Part 135. The 1995 NPRM proposed revisions that were responsive, however, those revisions resulted in considerable controversy and the FAA withdrew the NPRM. The Safety Board's concern that flight crew fatigue is a significant aviation safety issue continues today, yet little or no action has been taken by the FAA and they have not indicated any firm plans to take the recommended action.

**Maintenance Personnel**

In 1999, the FAA issued a report entitled *Study of Fatigue Factors Affecting Human Performance in Aviation Maintenance.* The FAA completed the first phase of the expanded study and issued a report in April 2000 entitled *Evaluation of Aviation Maintenance Working Environments, Fatigue, and Maintenance Errors/Accidents.* The expanded study looked at multiple and combined environmental factors of temperature, noise, light, vibration, and sleep, which are known to accelerate fatigue onset, as well as the effects of lifestyle habits on fatigue and human performance. The study was designed to collect data in the aviation maintenance work environment on known factors that affect human fatigue and performance. The data were intended for use in predicting situations that are conducive to fatigue, accidents, incidents and errors.

The FAA's findings suggest that fatigue is an issue in this workforce. Data from "mini-logger monitors" that recorded data from the selected parameters of light, noise levels, and temperature; activity monitors that monitored physical activity, sleep, and sleep quality; and the answers to background questions that employees were asked clearly indicate that sleep durations are inadequate to prevent fatigue. For most aviation maintenance technician specialties, 30–40 percent of respondents reported sleep durations of less than 6 hours, and 25 percent of respondents reported feeling fatigued or exhausted.

The DOT stated that the findings of its studies indicate that the extreme complexity of the issue of maintenance crew fatigue and duty time do not present appropriate material for regulatory activity, and education and training in fatigue management are the most appropriate actions for the FAA to sponsor and foster. The FAA has consequently conducted education and training activities on fatigue management for aircraft maintenance personnel. The Safety Board reviewed Advisory Circular (AC) 120–72, *"Maintenance Resource Management (MRM) Training,"* which seems to be the primary focus of the FAA's education and training initiatives related to fatigue among aviation maintenance crews. We found little in AC 120–72 that provides guidance on human fatigue in maintenance crews other than generalized warnings that attention to fatigue is important and should be considered in MRM Training. AC 120–72 contains little guidance as to how an employer should design a program to ensure that maintenance crews are not fatigued. In addition, the website referenced in the reports to Congress (*http://hfskyway.faa.gov*) is in fact nothing more than a single page with a very general description of the FAA's avia-

tion maintenance human factors research program. It contains no useful information to educate and train someone in the aviation community on the issues of fatigue management in aircraft maintenance personnel.

The Safety Board disagrees that regulating hours of service for aviation maintenance crews is not appropriate. In addition, the Board's reviews of the FAA's education activities related to reducing fatigue among maintenance crews shows them to be limited and of questionable value.

**Air Traffic Controllers**

In 2007, the Safety Board issued recommendations to the FAA and the National Air Traffic Controllers Association regarding air traffic controller fatigue. The Safety Board had investigated four incidents that provided clear and compelling evidence that controllers are sometimes operating in a state of fatigue because of their work schedules and poorly managed utilization of rest periods between shifts and that fatigue has contributed to controller errors. Controller fatigue decreases aviation safety. FAA policies and controllers' off-duty habits can contribute to the problem. Although the FAA and other organizations have conducted a great deal of research on this issue resulting in an improved scientific understanding of the causes of fatigue, its effects on controller performance, and strategies for reducing controller fatigue, the FAA has been slow to change controller-scheduling practices.

The FAA has convened a working group to develop shift rotation and scheduling guidelines, and it is our understanding that last month the National Air Traffic Controllers Association (NATCA) provided information on fatigue and scheduling practices. The FAA plans to develop and implement a fatigue awareness and countermeasures training program to be used by all FAA Air Traffic Organization operational service units. NATCA has informed the FAA and the Safety Board of its eagerness to participate in this group, and indicated its commitment to developing workable scheduling practices that minimize controller impairment due to fatigue.

**Action Remaining**

- Issue regulations that establish scientifically based duty time limitations for air carrier maintenance personnel and flightcrews.
- Develop a fatigue awareness and countermeasures training program for controllers and those who schedule them for duty.

*Maintenance Oversight*

In the course of Safety Board investigations—particularly those involving air carrier operations—Board investigators routinely examine issues related to regulatory oversight; policy and procedures; certification; and inspection and enforcement. Safety Board investigation reports typically include a characterization of regulatory policies and oversight as they relate to the circumstances of the accident or incident investigated. In some cases, deficiencies are identified in FAA regulation or oversight. In other cases, Safety Board investigations have identified local deficiencies in the actions of personnel responsible for enacting FAA policy. In those cases when the identified deficiencies were determined to have contributed to the circumstances in an accident or incident, the Safety Board has cited the FAA or FAA personnel as part of the probable cause of the accident. Therefore, a summary of the Safety Board's historic assessment of FAA oversight requires a review of the Board's findings of probable cause as well as the discussions of FAA policy and effectiveness in the text of Board reports.

The Safety Board records its findings of probable cause for aviation investigations in its aviation accident and incident database. Database records include the Board's probable cause statement in its original narrative form as well as a categorically coding of the causal findings. Attached is a summary of records from the Safety Board's aviation accident database in which the FAA or FAA personnel have been cited with regard to oversight functions. [not printed] Included in the summary are cases from 1983 to the present in which the Board cited FAA oversight or functions associated with oversight of operators and aircraft maintenance. Excluded from this attachment are cases in which FAA functions not directly related to oversight, such as air traffic services.

That concludes my testimony and I would be happy to answer any questions you may have.

Senator ROCKEFELLER. Thank you.

Mr. Brantley?

**STATEMENT OF TOM BRANTLEY, PRESIDENT, PROFESSIONAL AVIATION SAFETY SPECIALISTS, AFL–CIO**

Mr. BRANTLEY. Good morning, Chairman Rockefeller, Senator Hutchison, and members of the Subcommittee, and thank you for inviting PASS to testify today on FAA's aviation safety program.

The recent incident involving Southwest Airlines has drawn attention to the FAA's current inability to provide adequate oversight of the airlines. The slew of aircraft groundings indicate that there are problems within the system that are not being addressed. PASS is extremely concerned that the agency has become so focused on working in partnership with the airlines that it has allowed its safety mission to become a lower priority, in many cases ignoring warnings from its own workforce. Because of the agency's internal pressure to collaborate with industry, inspectors are being forced to change inspection data in FAA databases, reprimanded or removed from oversight responsibility of a carrier, and encouraged not to pursue enforcement actions.

PASS has also learned of cases in which FAA managers have allowed airlines to misuse FAA safety programs. The Voluntary Disclosure Reporting Program, VDRP, encourages airlines to self-disclose violations to avoid facing penalties. Inspectors report that the airlines are being allowed to self-disclose after an inspector has discovered a problem. In some cases, inspectors are being ordered by managers to hold off on an action to allow the airline to self-disclose. While self-disclosure can work, the deterrent is eliminated when the program is abused.

PASS concurs with many of the IG's recent recommendations regarding the program, including that the FAA implement a secondary review of self-disclosures before they are accepted.

The customer service initiative, CSI, is another FAA program that is being misused. CSI gives the airlines the right to ask for a review of an inspector's decision. Again, the idea is valid, but the FAA is permitting air carriers to use the CSI to remove an inspector simply for doing his or her job.

Guidance for the CSI actually directs the agency to treat the airlines as their customer. In PASS's view, the FAA should be focused on protecting aviation safety and treating the flying public as its customer rather than satisfying the aviation industry.

PASS recommends that this program be suspended until there can be an independent review of the program to ensure that it can be used properly and it can achieve its intended results.

With fewer inspectors out in the field, the FAA is touting ATOS as an effective way to prioritize the workload of safety inspectors based on risk. Yet, it is clear from the evidence over the last few months that ATOS data, the majority of which is provided by the airlines, cannot be relied upon without physical verification. Inspectors have informed PASS that the fundamental flaw of ATOS is that they are not performing enough hands-on surveillance. In fact, where inspectors used to spend most of their time in the field, they now tell us they are spending more than 70 percent of their time at their desks.

The FAA's recent actions to improve the inspection program do little to address the concerns of aviation safety inspectors. It is clear to PASS that if those charged with inspecting the safety of

the air carrier industry are not allowed to thoroughly examine and fully report potential safety issues, the FAA will fail in its mission of maintaining and enhancing aviation safety. It is time this became clear to the agency, and it is time for the FAA to once again make safety its top priority.

I feel strongly that the FAA must stop trying to portray the current crisis as an isolated incident and admit that a systemic problem exists. The FAA must stop relying on the industry to police itself and resume its oversight responsibilities. Partnership is a fantastic way of doing business as long as the FAA does not lose sight of its responsibilities. I think they can work with the industry. It does not have to be adversarial, but at the end of the day, the buck has to stop with the FAA. And right now, they are not even seeing the buck.

That concludes my comments, and I look forward to any questions you may have.

[The prepared statement of Mr. Brantley follows:]

PREPARED STATEMENT OF TOM BRANTLEY, PRESIDENT, PROFESSIONAL AVIATION SAFETY SPECIALISTS, AFL–CIO

Chairman Rockefeller, Senator Hutchison and members of the Subcommittee, thank you for inviting PASS to testify on Federal Aviation Administration (FAA) aviation safety oversight. The Professional Aviation Safety Specialists, AFL-CIO (PASS) represents 11,000 FAA employees, including approximately 2,900 Flight Standards field aviation safety inspectors located in 110 field offices in the United States as well as three international offices in Germany, the United Kingdom and Singapore. FAA safety inspectors are responsible for certification, education, oversight, surveillance and enforcement of the entire aviation system, including air operator and air carrier certificates, repair station certificates, aircraft airworthiness, pilots, mechanics, flight instructors and designees.

A recent high-profile incident in which Southwest Airlines was allowed to continue flying several planes despite being in violation of an FAA Airworthiness Directive (AD) has drawn significant attention to the FAA's ability to provide aviation safety oversight. The fact that FAA employees had to seek help outside the agency in order to get these safety concerns addressed is an unfortunate indication of the overall culture at the agency. PASS and the FAA aviation safety inspector workforce we represent have serious concerns regarding the FAA's ability to fully and properly oversee aviation safety. Through the following testimony, PASS will outline significant challenges encountered by the inspector workforce, including the FAA's over reliance on a computer-based system, the excessively close relationship between the FAA and airlines, misuse of FAA "partnership programs," oversight of outsourced maintenance, oversight of foreign repair stations and the critical need for increased inspector staffing.

**Air Transportation Oversight System (ATOS)**

The Air Transportation Oversight System (ATOS) was developed in 1998 as a "system safety" approach to oversight of the air carrier industry aimed at ensuring airlines comply with FAA safety requirements to control risk and prevent accidents. The creation of ATOS was a direct result of the 1996 ValuJet accident, in which it was discovered that outsourced maintenance was a causal factor. In theory, ATOS allows potential problems to be identified before they result in an incident or accident. The FAA's guidance on ATOS requires that a surveillance plan be implemented for each airline and standardizes the inspection and certification processes through automation tools.

While prioritizing workload based on levels of risk and attempting to manage that workload through automated tasks are valid concepts, there are several problems with ATOS that prevent the agency from benefiting from the system. Of primary concern is the fact that ATOS is limiting a vital aspect of the inspection process: visual, hands-on inspections actually performed by an FAA inspector. PASS believes that the FAA is relying too heavily on a data-driven system, due in part to the diminishing number of safety inspectors. In other words, by transitioning to ATOS without an adequate number of inspectors, the FAA is increasing its reliance on limited data rather than a combination of visual inspections and statistical analysis to

catch safety problems. Yet, FAA analysts have shared with PASS that they do not believe that there is enough statistical data to properly determine risk.

Throughout its implementation, several industry groups and government bodies have expressed concern about ATOS. In 2002 and 2005, the Department of Transportation Inspector General (IG) identified system-wide problems with ATOS. Among the issues discovered included lack of inspector training on the system, incomplete inspections in recognized risk areas, inadequate data and not placing inspectors where they were most needed. The IG recommended that the FAA strengthen national oversight and accountability of ATOS. According to the IG, the FAA has yet to fully address these recommendations.[1]

According to inspectors, prior to ATOS, they developed their own yearly surveillance plan with the ability to keep it fluid in order to address daily concerns or changes as they developed. The inspector spent most of his or her time at the airline or maintenance facility, meaning more surveillance was done on the actual operations and maintenance performed. Today, inspectors tell us that the fundamental flaw of ATOS is that they are not performing enough hands-on surveillance. Without actual visual inspections, inspectors are not able to validate the data provided by the airline and generate new data to input into the system. Moreover, when inspectors perform on-site visits, their presence alone serves as a deterrent. Unfortunately, the agency has restructured ATOS so there are fewer inspectors in the field and even eliminated the majority of remotely sited inspectors nationwide. Therefore, despite the increasing use of regional carriers and so much work being outsourced globally, the FAA appears focused on keeping its inspectors in a few central locations rather than where the actual work is taking place.

In the wake of Southwest Airlines' noncompliance disclosure, the effectiveness of ATOS was called into question once again. Southwest Airlines is an ATOS carrier and has been since the inception of ATOS in 1998. How effective is the FAA's ATOS process in identifying and managing risk if Southwest Airlines was able to become so lax in its AD compliance? In fact, ATOS inspectors are supposed to examine airlines' systems every 5 years to ensure compliance, yet Southwest's AD system had not been examined since 1999.[2] PASS believes that one of the main reasons ATOS is not working as intended is because it has not been properly resourced and supported by the FAA. It is a mistake for the FAA to rely on incomplete data, the majority of which is provided by the airlines, and limited visual inspections to determine risk.

With attention focused on AD compliance, the FAA issued Notice N8900.36 on March 13, 2008, directing a two-phased audit of Part 121 air carrier compliance with ADs in order to reassure the flying public that the Southwest incident was not a system-wide issue. In phase 1 of the audit, which was due March 28, inspectors sampled 10 ADs for each of the air carriers' fleets. Phase 2 of the audit, which is due June 30, will sample additional ADs to total 10 percent of the ADs applicable to the air carriers' fleets. While the original notice instructed inspectors to perform a visual inspection of the aircraft along with verification of records, the FAA released a broadcast message that FAA inspectors should only perform a records check due to the two-week time constraint for completion of Phase 1. In other words, the aircraft and/or its components were not required to be inspected. On April 2, the FAA released results from the first phase of the audits claiming a 99 percent rate of airline compliance with ADs.

However, without FAA surveillance of an aircraft, the aircraft's physical AD compliance status is unknown despite what the records may indicate. While the FAA has hailed the first results of the audit as an indication that the overall program is working, PASS has serious concerns as to the validity of any results collected through this directive and whether a records check on so small a sampling of aircraft data will render meaningful results or assurance of compliance. Furthermore, PASS has learned that many inspectors were told to perform "easy" checks during this audit—items that would not require a considerable amount of time or result in many problems. One inspector told PASS that the airline he was responsible for checking was actually warned of which ADs would be checked a full 5 days before the FAA reviewed them.

The IG recommendation for increased national oversight of ATOS, including a process to track field office inspections to ensure that they are conducted in a timely manner,[3] is an important step forward in addressing some of the major issues that

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[1] Department of Transportation Inspector General, *Actions Needed to Strengthen FAA's Safety Oversight and Use of Partnership Programs,* CC–2008–046 (Washington, D.C.: April 3, 2008), pp. 3–4.

[2] *Id.,* p. 13.

[3] *Id.,* p. 16.

prevent the agency from benefiting from the system. However, without enough people—FAA inspectors who are trained to see and hear things not quantifiable through any database—any adjustments to the process will have little or no impact.

**FAA Culture Impedes Work of Safety Inspectors**

The culture at the FAA has devolved into one in which the employees are criticized for their actions, questioned on their expert opinions and made to feel as if they are the only ones fighting for the safety of the system. As stated earlier, the creation of ATOS was the FAA's answer to providing reassurance in the wake of the ValuJet accident. National Transportation Safety Board (NTSB) hearings on the accident reveal that at least one employee expressed repeated concerns as to the safety of ValuJet prior to the accident, going so far as to file a report suggesting the FAA intensify its surveillance of the airline by increasing the number of inspectors assigned to the carrier. However, that report was ignored and not passed along to higher levels of management. During the hearing, it was indicated that the environment at the FAA was one in which the comments and observations of subordinates were regularly dismissed by those at the top. The lack of change in the culture at the FAA is striking. Although ATOS may have been conceived with the best intentions, it obviously does not address the underlying problems that continue to plague the agency.

*"Cozy" Relationships Between FAA Management and Airlines*

A 1996 act of Congress eliminated a portion of the FAA's "dual mandate" that directed the agency to promote air travel.[4] Although legislation describing the FAA's mandate now instructs the agency to focus on maintaining and enhancing safety, there remains pressure from FAA management to promote the aviation industry even if it is at the sacrifice of safety enforcement. In fact, PASS has learned of numerous instances in which, due to collaboration between the FAA and industry, FAA safety inspectors were prevented from moving forward with enforcement actions after identifying a violation of the Federal Aviation Regulations. As a result, the role of inspector as safety enforcer is becoming increasingly overshadowed and inspectors are being pressured by FAA management not to pursue enforcement actions or to severely censor their evaluations.

There are many examples in which FAA management has "looked the other way" rather than seriously contemplating the safety inspector's professional opinion and taking immediate steps to ensure that the airline was in compliance with FAA regulations. One recent high-profile example in which safety violations were detected at an airline illustrates the FAA's cultural flaw all too clearly. In September 2007, the IG released a report on an incident involving a safety inspector for Northwest Airlines who, after identifying safety problems with the airline, was prevented from further access to the carrier and reassigned to administrative duties. After a thorough investigation, the IG determined that many of the inspector's findings were legitimate and that the FAA appeared to focus on "discounting the validity of the complaints rather than determining whether there were conditions . . . that needed correction."[5] The IG warned that a "potential negative consequence of FAA's handling of this safety recommendation is that other inspectors may be discouraged from bringing safety issues to FAA's attention."[6] PASS fully concurs with the IG's assessment. In fact, many safety inspectors with whom we spoke were hesitant even to discuss similar situations with the union in preparation for this testimony for fear that their managers would find out and put them under investigation or otherwise "make work a nightmare."

Furthermore, PASS has learned of instances in which FAA management has urged or actually required inspectors to alter their information in FAA databases in order to diminish the seriousness of the inspectors' findings. Recently, two grievances were filed by inspectors involving incidents in which inspectors working at the Northwest Airlines certificate management office (CMO) were forced to change information they had entered into the ATOS database by their frontline managers. According to FAA policy, when there is a difference of opinion concerning critical assessment data captured in an FAA database, all information is supposed to be elevated to the principal inspector so that he or she has the necessary data in order to assess the safety risk. In one instance, however, management demanded a more generic version of the data that did not reflect as negatively on the airline to replace

[4] Public Law 104–264, Section 401: Elimination of Dual Mandate.

[5] Department of Transportation Inspector General, *Actions Taken to Address Allegations of Unsafe Maintenance Practices at Northwest Airlines,* AV–2007–080 (Washington, D.C.: September 28, 2007), p. 7.

[6] *Id.*

the inspector's actual findings. In another case, an inspector, after documenting observations of noncompliance, was told to change responses in the ATOS database. When the inspector refused, believing that this would significantly affect the quality of the safety information, the inspector was admonished. A recent change to FAA policy will allow FAA managers access to the system and permit them to alter the data without forcing the inspector to make the changes. Management will be required to identify the author of the change and provide the reporting inspector with a copy of the change. Although this will certainly limit the demand placed on inspectors to conform to management pressure, this process still has the potential to impact the safety of the system.

Consider the following additional examples in which the disturbingly close relationship between FAA management and industry is highlighted:

- In 2003, an inspector assigned to Continental Airlines discovered that over 4,000 life vests had not been overhauled by a certificated repair station in accordance with the component maintenance manual. The inspector's supervisor did not want to have the airline replace the life vests and, according to the inspector, went so far as to accuse the inspector of wanting to bankrupt the carrier. FAA management allowed the airline to continue operating with these "unairworthy" life vests for several weeks. Only after the persistent efforts of the inspector did a higher level of management insist the life vests be replaced immediately.
- In October 2007, a safety inspector assigned to American Eagle in Fort Worth uncovered training and operational issues the inspector believed should be addressed by the agency. The inspector wrote 11 letters on issues ranging from handbook compliance to regulatory compliance and sent them to the principal inspector assigned to the American Eagle CMO operations unit, who then sent them on to the unit supervisor. In November 2007 and again in January 2008, the inspector asked the unit supervisor about the status of the letters. On both occasions, the unit supervisor, who is a former employee of the carrier, responded that sending all the letters at once would overwhelm the carrier. After details regarding upcoming hearings were released, the inspector was informed that the unit supervisor had told the principal inspector to send the letters to the carrier.
- In 2007, inspectors assigned to the Hawaiian Airlines certificate were advised that they could no longer perform inspections on aircraft in service when the flight turnaround time is only an hour and a half. When a plane is in service and sitting at the gate on the "ramp," it is considered an excellent time to inspect the carrier to validate the airline's assertion that the aircraft is ready for passenger-carrying service, especially since most of these aircraft will be flying over water for extended periods. An e-mail from management emphasized that the airline had expressed concerns due to delays caused by these inspections and that "on-time performance is a high priority item for Hawaiian." Inspectors have been directed not to conduct detailed inspections of an aircraft during "quick" turnaround in order for the inspectors to "be less apt to cause a disruption." The e-mail specifically states that this change in procedure is to enhance the working relationship between the FAA and the airline.

Moreover, even if an enforcement action initiated by an FAA safety inspector makes it through all the procedural steps and results in a civil penalty, a process that can take up to several years, these fines or penalties are often dramatically reduced. A 2005 report by the Government Accountability Office (GAO) stated that from FY 1993 through 2003, there was a "52 percent reduction in the civil monetary penalties assessed from a total of $334 million to $162 million."[7] Inspectors have told PASS, and the GAO report has confirmed, that the lessening of penalties for present violations has severely reduced the prevention of future violations. In other words, if punishment for violating safety regulations is not appropriately strict, penalizing an airline will have little or no impact on future actions.

One case involving an FAA safety inspector working for the United Airlines CMO illustrates this prevalent practice of reducing the amount of civil penalties assessed on an airline found to be in violation. In 2003, the inspector discovered a significant problem with improper accomplishment of work under an FAA AD on the United Boeing 777 aircraft. The AD required that "each backup generator must be serviced by different individuals before any subsequent flight." The inspector found that the

[7] Government Accountability Office, *Aviation Safety: FAA's Safety Oversight System Is Effective but Could Benefit from Better Evaluation of Its Programs' Performance,* GAO–06–266T (Washington, D.C.: November 17, 2005), p. 12.

air carrier had been systematically performing dual servicing contrary to the AD for years. As a result, an EIR was filed. The EIR sanctioning guidelines provided for a recommended civil penalty of $500,000, but the office manager would not endorse the EIR with that proposed amount. The office manager eventually approved the EIR with a proposed civil penalty of $195,000. The informal hearing regarding the case was held in December 2007, and the proposed sanction after the hearing was $32,000. The final amount appears to be a civil penalty of $28,000. In addition, while gathering records for the EIR, the inspector discovered falsification of records. Despite the efforts of the inspector, there was never any consequence to the falsification issue.

*Customer Service Initiative (CSI)*

In 2003, FAA Aviation Safety Associate Administrator Nick Sabatini unveiled his Customer Service Initiative (CSI) program in order to allow certificate holders to "request reconsideration of a decision made by an Aviation Safety office."[8] The guidance on the initiative reads similar to what one may expect to encounter in any service-based industry where the emphasis is on satisfying the customer. In PASS's view, the FAA should be focused on protecting aviation safety and treating the flying public as the most important customer rather than satisfying the aviation industry. The CSI allows airlines to ask for review on any inspector's decision made in the regulatory or certification process. However, the FAA is permitting air carriers to use the CSI to make customer complaints and remove an inspector simply for doing his or her job. In essence, the CSI program finds the inspector guilty without a trial, granting the airlines an almost effortless way to clean the slate, as well as sending a disturbing message to any other inspector assigned to the carrier that if they attempt to hold the carrier accountable, they may be removed from the assignment or face other repercussions.

PASS is aware of many incidents in which FAA management has allowed an air carrier to exploit the CSI process after an inspector attempted to hold the airline accountable. In some cases, air carriers have even requested that their certificate be transferred to another Flight Standards District Office (FSDO). Consider the following examples:

- In 2005, an inspector working at the Northwest Airlines CMO in Minnesota detected a problem with the airline's use of temporary workers who were not properly trained and familiar with the airline's maintenance operation. The inspector repeatedly related concerns that the airline's use of temporary workers who were not competent or properly trained could jeopardize the continued operation of the airline. In response to these findings, the airline contacted the FAA manager at the CMO and accused the inspector of harassment. Without conducting a proper investigation, the FAA removed the inspector from the certificate. When the agency refused to address the system issues regarding the use of temporary maintenance workers, the inspector was forced to file a safety recommendation. This safety recommendation was ignored, compelling the inspector to elevate the issue to Congress and the Inspector General due to serious safety concerns regarding the operation of the airline.
- In 2005, a major helicopter company performing an external lift operation in the FAA field office district of Fort Worth, Texas, was found in noncompliance with the company's FAA-approved altitude restrictions and congested area limitations. The reporting inspector had proposed severe sanctions against the pilot and operator, and a letter was sent to the operator detailing the proposed civil penalties. The operator complained about the sanctions and the enforcement actions were dismissed. The FAA responded by prohibiting inspectors in Fort Worth from performing any future surveillance on the operator when it operates in their district.

Due to the repeated misuse of the CSI program, PASS recommends that the program be suspended until there can be an independent review of the program in order to ensure that it is being used properly and achieving intended results.

**Voluntary Disclosure Reporting Program (VDRP)**

FAA management has allowed the culture at the agency to degenerate into one in which satisfying airlines has priority over aviation safety. In fact, FAA management is allowing airlines to use FAA safety programs to avoid enforcement action. The misuse of these partnership programs not only reduces the essential aviation

[8] Federal Aviation Administration. *Customer Service Appeals & Petitions* [updated August 3, 2005; cited February 2008]. Available from *www.faa.gov/about/office_org/field_offices/fsdo/cs_initiative*.

safety inspector role to a mere nuisance, diminishing their credibility with the airline they are charged with overseeing, it forces inspectors to work in an environment where their expert warnings are often ignored or severely downgraded—a dangerously negligent approach to aviation safety.

The Voluntary Disclosure Reporting Program (VDRP) allows certificate holders operating under Title 14 of the *Code of Federal Regulations* to disclose voluntarily to the FAA apparent violations of certain regulations. As a result of airlines self-disclosing a violation and presenting a plan for a "comprehensive fix" of the problem, entities will receive a letter of correction instead of a civil penalty. According to the FAA, this policy is intended to "encourage compliance with FAA regulations, foster safe operating practices, and promote the development of internal evaluation programs."[9] However, in order for the VDRP to operate successfully, several steps must be rigorously enforced by the FAA, which is often not the case.

At a minimum, the FAA should enforce its requirement that the air carrier "promptly" disclose the violation upon its own detection and immediately terminate the improper conduct. According to the order, "In evaluating whether an apparent violation is covered by this policy, the responsible inspector will ensure . . . [the entity] has notified the FAA of the apparent violation *immediately* after detecting it *before* the agency has learned of it by other means"[10] (emphasis added). *Furthermore,* aside from specific exceptions, FAA policy states that the FAA "will not forgo legal enforcement action if [the entity] informs the FAA of the apparent violation during, or in anticipation of, an FAA investigation/inspection or in association with an accident or incident."[11]

The policy makes it clear that once an FAA safety inspector finds a safety violation, that discovery should result in an enforcement action—the airline is not supposed to be given a chance to self-disclose at that point. If an inspector finds an apparent violation, it should be considered a significant event and should be treated accordingly. The important and safety-critical work of FAA safety inspectors must be taken seriously and their findings must be given proper attention and merit.

Regardless of the explicit directions in the FAA policy, the intense focus of FAA managers on maintaining a positive relationship with the airlines is resulting in serious abuse of the VDRP. The IG has expressed belief that the FAA "relies too heavily on self-disclosures and promotes a pattern of excessive leniency at the expense of effective oversight and appropriate enforcement."[12] PASS has learned of many cases that validate this concern in which inspectors find safety violations but are being directed by their front-line managers to hold off on enforcement to allow the airline to self-disclose the item. For example, in 2006, an FAA safety inspector assigned to conduct oversight of a major air carrier in the Southern region discovered problems when reviewing modifications made to a Boeing 737.[13] The inspector discovered that the problems applied to several aircraft and promptly notified the principal inspector and operator. When following up on the incident the next week, the inspector discovered that the airline had been allowed to self-disclose the problem despite the FAA safety inspector discovering the problem first. According to inspectors in the field, this abuse of the self-disclosure process occurs frequently, negating the purpose of the program and raising the chance that safety risks will not be captured appropriately.

Furthermore, the VDRP guidance does not penalize an airline for self-disclosing the same item repeatedly as long as it is determined that a "comprehensive fix was satisfactorily completed and followed."[14] While it is possible that a comprehensive fix was not successful, thus causing a repeat occurrence, this is something that should be determined prior to the case being considered closed. Allowing unlimited disclosure of the same issue further undermines the credibility of the program. In fact, the IG stated that "a partnership program that does not ensure carriers correct underlying problems is less like to achieve safety benefits." Airlines are businesses with a focus on profit and, while safety is no doubt a priority, there must be govern-

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[9] FAA Order 8900.1—*Flight Standards Information Management System (FSIMS),* Volume 11: Flight Standards Programs, Chapter 1: Voluntary Disclosure Reporting Program.

[10] *Id.*

[11] *Id.*

[12] Department of Transportation Inspector General, *Actions Needed to Strengthen FAA's Safety Oversight and Use of Partnership Programs,* CC–2008–046 (Washington, D.C.: April 3, 2008), p. 3.

[13] Due to fear of retaliation, the inspector would not permit PASS to disclose the identity of the air carrier.

[14] FAA Order 8900.1—*Flight Standards Information Management System (FSIMS),* Volume 11: Flight Standards Programs, Chapter 1: Voluntary Disclosure Reporting Program.

ment surveillance and accountability to ensure that profit does not overshadow the safe operation of the carrier.

PASS concurs with the IG's assessment that the FAA must implement a secondary review of self-disclosures before they are accepted and that guidance for the VDRP instruct the inspector to fully review the carrier's proposed solution for the reported problem and document that review prior to accepting the self-disclosure.[15] In addition, PASS is concerned that the VDRP database is not being monitored on a local, regional or national level to identify trends that may impact several airlines. If this analysis is not being performed, PASS suggests that the FAA take action to ensure that the VDRP database is examined on an ongoing basis in order to identify and address widespread risks as well as determine whether the program is achieving the desired results.

**Oversight of Foreign Repair Stations**

Another problem on which this committee has focused attention is airlines increasing their reliance on outsourced maintenance work performed at facilities within this country and abroad. Whereas much of this work was once done at the air carrier's facility, according to the IG, 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 of 2006, the amount of outsourced maintenance had already increased to 64 percent.[16]

A large portion of this work is being performed at facilities in foreign locations, and 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. The regulations governing foreign repair stations have also been called into question. For example, as opposed to domestic airline or repair station employees, workers at contract foreign repair stations are not required to pass drug and alcohol tests. There also continues to be major concerns regarding security at these facilities, with many of the repair stations lacking any security standards. 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.

Another concern is that the FAA continues to expand the use of bilateral agreements with foreign countries to oversee repair of U.S. carriers. The Bilateral Aviation Safety Agreement (BASA) with Maintenance Implementation Procedures (MIPs) allows foreign authorities to provide oversight of the work performed at repair facilities without any 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. According to the IG, however, foreign authorities do not provide the FAA with sufficient information on what was inspected, the problems discovered and how these problems were addressed. The IG has recently stated that despite some additional efforts, the concern remains that the "FAA is still not regularly visiting the facilities in the countries where agreements exist with other aviation authorities."[17] 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 inspectors had not conducted any spot inspections of this facility in 5 years.[18]

In order to ensure that the work performed at foreign repair stations meets FAA and air carrier standards, PASS believes that all certificated foreign repair stations should be inspected at least twice a year by an FAA inspector and all workers working on U.S. aircraft should be drug and alcohol tested. In addition, the increasing use of foreign repair stations has been drawing even more attention to the inspector staffing problem. Clearly, the inspector workforce must be expanded in order to meet the demands required by work performed on U.S. aircraft overseas.

**Use of Non-Certificated Repair Facilities**

With airlines increasing their use of outsourced maintenance work, there has been a significant increase in the use of non-certificated repair stations. "Non-certificated" means that the repair facility does not possess a certificate issued by the FAA to

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[15] Department of Transportation Inspector General, *Actions Needed to Strengthen FAA's Safety Oversight and Use of Partnership Programs,* CC–2008–046 (Washington, D.C.: April 3, 2008), p. 21.

[16] 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.

[17] *Id.,* p. 9.

[18] *Id.*

operate under Federal Aviation Regulation 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.

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.[19] 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 is performed in accordance with FAA standards and requirements.

According to the IG, the FAA does not know how many non-certificated maintenance facilities air carriers currently use, but the IG identified "over 1,400 non-certificated repair facilities performing maintenance and more than 100 of these facilities were located in foreign countries."[20] The IG also 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.

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. It is obvious that there must be changes made regarding air carriers' use of non-certificated repair facilities. As such, PASS believes that all air carrier maintenance work (substantial, regularly scheduled or required inspections items) should only be performed by an FAA-certificated repair station.

**FAA Must Ensure Adequate Inspector Staffing**

PASS is extremely concerned about staffing of the FAA safety inspector workforce. Whereas decades ago, FAA safety inspectors were regularly on location performing visual inspections, the agency has undergone dramatic changes and inspectors now report spending more than 70 percent of their time at their desks. The FAA has shifted its focus to a risk-based, data-driven system due to the decreasing number of FAA aviation safety inspectors. With the increased outsourcing of maintenance work in this country and abroad, growing number of aging aircraft, the emergence of new trends in aviation (such as very light jets, unmanned aircraft and regional carriers) and the expansion of the FAA's designee programs—all of which require additional inspector oversight—it is imperative that there are enough inspectors in place to monitor the safety of the system.

Making this situation even worse is the fact that nearly half of the inspector workforce will be eligible to retire in the next 5 years and many areas are already severely understaffed. Considering the recent Southwest incident, it is even more critical that the FAA have enough inspectors to ensure proper identification of airline safety violations and adequate follow-up. Unfortunately, in its FY 2009 budget request, the FAA has not requested any funding to hire additional Flight Standards aviation safety inspectors. Since it is critical that there are enough inspectors in place to adequately oversee the growing industry and ensure the safety of the aviation system, sufficient funds must be authorized to hire more inspectors.

**Conclusion and Recommendations**

Following the Southwest Airlines incident, the FAA, claiming that it was now "wide awake," released a series of improvements to the agency's inspection program. The highlight of these improvements is the creation of the Safety Issues Reporting System (SIRS) to provide employees an "additional mechanism to raise safety concerns if they feel they are not receiving the necessary airing or response from super-

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[19] National Transportation Safety Board, *Loss of Pitch Control During Takeoff, Air Midwest Flight 5481, Raytheon (Beechcraft) 1900D, N233YV, Charlotte, North Carolina, January 8, 2003,* Aircraft Accident Report NTSB/AAR–04/01 (Washington, D.C.: 2004), p. x.

[20] Department of Transportation Inspector General, *Aviation Safety: FAA's Oversight of Outsourced Maintenance Facilities,* CC–2007–035 (Washington, D.C.: March 29, 2007), p. 13.

visory and management personnel."[21] This hotline is in addition to hotlines already in existence that were used by FAA inspectors in the Southwest Airlines incident to no avail. Inspectors have told PASS that these hotlines serve no real purpose other than to bring negative attention to the inspector using the hotline. In fact, one inspector informed PASS that after not receiving an appropriate response from management, the inspector elevated concerns through one of these hotlines. The responsibility for responding to the hotline report was shifted through layers of management until it was directed back to the very same managers about whom the inspector had complained in the first place. The inspector, who did not conceal his identity when using the hotline, revealed that the problems never were adequately addressed.

Clearly, another hotline is not a solution to the pervasive problems at the FAA. The IG has stated that the FAA needs to make "immediate and comprehensive changes to its oversight of air carriers."[22] While a hotline may be immediate, it is in no way comprehensive. Another hotline is nothing more than lip-service to a field of aviation experts attempting to raise aviation safety issues that require immediate attention. It may indeed be necessary to create another avenue through which inspectors can express concerns, but this plan cannot be successful if it is another FAA project. PASS believes that any such program *must* be independent of the FAA if it is to succeed.

In addition, there is no doubt that the relationship between the FAA and the airline industry needs to change to ensure safety issues are given appropriate attention. PASS agrees with the concept of rotating managers in order to prevent these types of "cozy" relationships from developing. Those with the ultimate responsibility for oversight of FAA safety inspectors and the carrier should be the group that is rotated among facilities. As such, PASS recommends that a plan be executed to rotate all first- and second-level managers on a regular basis. This rotation will help to discourage management from becoming too closely connected with the airlines. While this rotation may be a good start, PASS also concurs with the U.S. Office of Special Counsel in that since "the culture of complacence and cover up goes very high in management circles" at the FAA, there needs to be "a serious discipline and shakeup of the FAA in order to send the proper message inside what appears to be a very insular organization . . . ."[23]

According to the FAA's website, aviation safety inspectors are the "FAA's on-site detectives."[24] While this statement was once true, the FAA has become an agency where a limited inspector workforce facing a constantly increasing workload is prevented from pursuing safety concerns by a management culture focused on pleasing the industry. The FAA's customers are the flying pubic, not the airlines, and its most critical role is to protect the safety of these customers. Safety is always the primary focus of the FAA safety inspector workforce—their contributions and the safety of the aviation system should never be anything but the agency's top priority as well.

Senator ROCKEFELLER. Thank you.

Mr. Barimo?

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

Mr. BARIMO. Good morning, Mr. Chairman, Senator Hutchison, members of the Committee. This morning's hearing is important and timely and it provides us with the opportunity to take stock of commercial aviation safety in the United States, and more specifically, it provides us the opportunity to review how we got here

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[21] Federal Aviation Administration, "FAA Announces Improvements to Inspection Program," April 2, 2008.

[22] Department of Transportation Inspector General, *Actions Needed to Strengthen FAA's Safety Oversight and Use of Partnership Programs,* CC–2008–046 (Washington, D.C.: April 3, 2008), p. 16.

[23] U.S. Office of Special Counsel, *Statement of the Honorable Scott J. Bloch, Special Counsel, U.S. Office of Special Counsel* (Washington, D.C.: April 3, 2008), pp. 6–7.

[24] Federal Aviation Administration. Aviation Safety Inspectors [updated January 4, 2007; cited February 2008]. Available from *www.faa.gov/about/office_org/headquarters_offices/ahr/jobs_careers/occupations/av_safety_insp*.

and to discuss how best to improve that remarkable safety record. Let me highlight a few basic considerations.

First, the bedrock principle in aviation is safety first. Congress has said in the Federal aviation law that assigning, maintaining, and enhancing safety and security are the highest priorities in air commerce. That Congressional mandate says it all, and we are committed to doing our part to achieving it.

Second, we did not get to where we are today by being lucky. We have worked very hard to achieve our safety record, which last year saw no fatal accidents in air carrier accidents in the United States. While we recognize clearly that FAA is the regulator and airlines are the regulated entity, we also recognize with equal clarity that aviation safety is a collaborative undertaking.

Third, you never rest on your laurels in this business. The safety record of the Nation's airlines is so impressive because of the unrelenting commitment of everyone involved, Congress, the FAA, the NTSB, manufacturers, airports, maintenance organizations, the employees and their unions, and airlines, to improving civil aviation safety. That commitment has not flagged.

I would like now to discuss where things stand in three key areas that the Subcommittee has identified: regulatory oversight, maintenance, and runway safety.

The FAA's responsibility to regulate airlines to achieve the highest degree of safety, which Congress has mandated, has not diminished, nor has the airlines' responsibility to fulfill that mandate diminished. Both are immutable.

What has changed, though, are the tools that are available and, I would emphasize, necessary to meet those responsibilities. Instead of being reactive and establishing safety goals based on the most recent accident or incident, the industry and FAA have learned to use the wealth of data from all stakeholders to guide the safety agenda so that not only existing, but potential risks are identified and solutions to them developed in the most effective way. FAA's ATOS system, we heard described earlier, embodies this principle, and we believe that the concept of ATOS is sound, although as the Inspector General has pointed out, some refinements are needed.

This analytical and more predictive approach has paid tremendous dividends. It is the key to future safety improvements. Commercial aviation safety is a much more forward-looking endeavor today than in the past. Data in amounts and detail unimaginable a decade ago and collaborative risk analyses have become indispensable. Make no mistake. That does not mean that FAA inspectors should not be kicking the tires and touching metal. It means, however, that the historic means of regulatory oversight simply are not enough today.

Airline maintenance issues have been front page news for the past few weeks, including today. Airline maintenance programs are carefully designed, comprehensive, and continuously refined. Today's headlines have not changed any of that. The maintenance system being scrutinized today has delivered unprecedented levels of mechanical reliability, which in turn contribute to overall safety. The chart in my written statement illustrates the exceptional performance of the Boeing fleet, and I will note that the Airbus fleet

is comparable. The chart shows that regardless of where maintenance is done, it is being done and done well.

But it is a complicated business and we are not perfect. As we have seen recently, tracking hundreds of thousands of individual maintenance tasks is challenging. Even though a recent FAA audit of AD compliance revealed a compliance rate of better than 99 percent, airlines are committed to further improving an already robust system. And this recent experience underscores airlines will ground aircraft when there is any doubt about a maintenance issue.

Runway safety remains a high priority for the industry, but there is no single fix when it comes to eliminating runway incursions. The solution is a layered one that integrates technological advances, improved procedures, taxi and runway improvements, better understanding of human factors in performance. ADS–B mentioned earlier will ultimately provide much better situational awareness for flight crews whether in the air or on the ground.

In the interim, we are pleased that FAA, working with airport operators, is deploying new systems like ASDE–X and AMASS and Runway Status Lights and adding perimeter taxiways, and all that, combined with heightened flight crew awareness and training, will certainly help reduce collision risks. We recognize, though, that this is an ongoing effort.

In summary, we realize how unsettling the news about maintenance and regulatory oversight practices has been lately. There is no getting away from that. Whatever shortcomings may ultimately be identified in these episodes, the unchangeable reality is that airline maintenance and operation practices have produced the safest period of flying that our industry has ever experienced. In the coming weeks and months, we should prudently evaluate suggested changes to that system. Change can be very good, but change for its own sake rarely is. That is particularly so when it involves the safety of our customers and our crews.

That concludes my statement. I am happy to answer your 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 the state of aviation safety in the U.S. airline industry. ATA member airlines have a combined fleet of more than 4,400 airplanes and account for more than 90 percent of domestic passenger and cargo traffic carried annually by U.S. airlines.

ATA was founded in 1936 by fledgling U.S. airlines for two fundamental reasons: to improve and promote safety within the industry and to advocate for a legal and regulatory environment that would allow the U.S. commercial airline industry to grow and prosper. What was true then is true today: Safety is the foundation of this industry. U.S. airlines will thrive only if the industry *in fact* is safe and only if the public recognizes and *believes* it is safe. For this reason, our members take their safety responsibilities very seriously. "Safety first" is more than just a catchphrase—it is the core principle of this industry.

[1] ABX Air; AirTran Airways; Alaska 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.

**Airlines Fuel Our Nation's Economy**

The U.S. airline industry is not simply an important sector of our 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 2.1 million passengers on a typical day and directly employ over one-half million 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 is comprised of airlines, airports, manufacturers and associated vendors. According to the Federal Aviation Administration (FAA), U.S. commercial aviation ultimately drives $1.1 trillion in U.S. economic activity and nearly 10 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.

**Safety Above All Else**

The challenges facing the U.S. airline industry are widely known. Once lucrative international markets are softening, jet fuel prices are at an all-time high with no relief in sight and, by all accounts, the United States has entered an economic recession. Since Christmas Eve, five airlines have fallen victim to these challenging conditions. Yet despite entering this new era of volatility, airline safety has remained rock solid.

In 2007, Part 121 carriers transported 750 million passengers more than eight billion miles and logged 19 million flight hours on 11.4 million flights. According to the NTSB, 2007 saw no passenger fatalities or major accidents. The trend continues in 2008 and without question, scheduled air service is incredibly safe and working hard to be even safer.

**A Performance-Based, Data-Driven Approach**

While there are many reasons for the industry's excellent safety record, in our opinion two key developments stand out as having a significant positive impact. First, we have progressed from a prescriptive, conduct-based regulatory philosophy that focuses on what to do and how to do it, to one that looks to set performance standards first and the manner of achieving the desired performance second. This has shifted the focus to where it should be—on the safety objective, allowing carriers and the FAA to better define and implement appropriate procedures and requirements. Second, instead of being reactive and establishing safety goals based on the

most recent accident or incident, the industry has learned to use the wealth of hard data accumulated by all stakeholders—FAA, NTSB, manufacturers and air carriers—to drive the safety agenda so that the most serious risks are identified and solutions developed in an orderly, efficient and effective manner. This data-driven, risk-assessment approach to safety has paid tremendous dividends already. It is the key to future safety improvements and continued accident prevention.

**Voluntary Programs Are Raising the Bar**

FAA and airline safety programs reflect and implement the regulatory philosophy and data-driven approach to safety previously described. In particular, the development of *voluntary* programs that encourage the reporting of operational data that would otherwise be lost has expanded the data set and enhanced the value of the analytical products. Working with the FAA and other stakeholders, U.S. airlines have developed flight operational quality-assurance programs—known as FOQA programs,[2] aviation safety action programs,[3] voluntary disclosure programs[4] and line operations safety audit programs.[5] These programs have provided valuable data that have yielded insights into the precursors of accidents. FAA and the airlines have used this information to jointly identify and effectively mitigate risks that might otherwise have resulted in accidents. This view is shared not only by the airlines and FAA, but by independent safety experts worldwide including Flight Safety Foundation President and CEO William R. Voss. In a March 2008 statement, Mr. Voss states:

> "The commercial aviation system in the United States is the safest in the world, and both the FAA and industry should be justifiably proud of their record. As in any safety management system, there is always room for continuous improvement, but we cannot allow isolated breakdowns, which the FAA and industry are moving swiftly to address, to ruin partnership programs that have demonstrably contributed to aviation's sterling safety record. Nor can we afford to dry up the free flow of information that allows professionals to identify problems before they become safety threats. We cannot create a wall between the FAA and the airlines that will stop the flow of information and set aviation safety back 20 years."[6]

In fact, the DOT Inspector General recently testified as to the value of voluntary programs, stating that:

> "Such programs (Voluntary Disclosure Reporting Program and Aviation Safety Action Program), if properly implemented, can add value by identifying issues that might not otherwise come to light . . . We support the concept of self-disclosure programs and recognize the challenge they present to FAA—carefully balancing a collaborative relationship with effective oversight and appropriate enforcement actions."[7]

In addition to data-driven programs, aviation safety can be viewed as the cumulative outcome of numerous other activities by the FAA, NTSB, airlines and their employees, and airframe and engine manufacturers. The most obvious of these is the approval and surveillance by the FAA of air carrier training programs. Training programs for flight and cabin crews are critical to safe operations. Airlines employ a rigorous selection and training process that includes comprehensive initial and recurrent training. Most major airlines today utilize the Advanced Qualification Program, which enables each airline to tailor its curriculum to its unique operating environment and thereby maximize crew-member proficiency. We believe these and other similar programs will produce further improvements in aviation safety.

One of the most important programs affecting safety has been the joint industry-government Commercial Aviation Safety Team (CAST). CAST was established in 1997 to develop a comprehensive strategy to identify and prioritize risks based on past accidents and then develop solutions to reduce commercial aviation fatalities

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[2] FOQA programs involve the collection and analysis of data recorded in flight to improve the safety of flight operations, air traffic control procedures, and airport and aircraft design and maintenance.

[3] ASAP involves collection and analysis of safety concerns reported by employees.

[4] VDRP allows a certificate holder to disclose a case of noncompliance without facing a civil penalty, provided the entity promptly and comprehensively corrects the noncompliance.

[5] LOSA involves the collection of safety data through in-flight observations of flight crews by specialists; Airlines use this information to assess the effectiveness of their training programs.

[6] Flight Safety Foundation Press Release dated March 3, 2008.

[7] Statement of the Honorable Calvin L. Scovel III, Inspector General, U.S. Department of Transportation before the House Committee on Transportation and Infrastructure, April 3, 2008.

in the United States. Using a data-driven process, the CAST initiative identifies accident precursors and contributing factors to ensure that resources are applied to improve safety where needed most and where most effective. Over time, CAST has successfully addressed several types of accidents, such as controlled flight into terrain, approach and landing accidents, runway incursions, maintenance management, icing and uncontained engine failures. As of 2007, 39 different safety enhancements had been accomplished, and 26 were underway. Through these 65 enhancements, the industry is approaching its goal of reducing the fatality risk by 80 percent.

But CAST doesn't stop there. While the original CAST approach looked back at accidents to better understand them and prevent future accidents, the next generation of CAST efforts will look forward to future risks. Compiling a wide range of safety indicators, CAST will identify risks to aviation safety before they result in accidents. The key to our success will be our ability to confidentially aggregate sensitive, industry-wide safety data and mine it for trends. The Aviation Safety Information Analysis and Sharing (ASIAS) system[8] was launched in October 2007 to enable the exchange and analysis of safety data on a national level. We will continue to support the ASIAS system and look forward to the benefits it offers.

As noted, the CAST strategy is first and foremost data driven. It relies on comprehensive analysis of past accidents/incidents to identify accident precursors and then develop specific safety enhancements to address those precursors and related contributing factors. But the CAST process does not stop there. It is a fully integrated process that includes airlines, manufacturers, maintenance providers, commercial pilots, National Aeronautics and Space Administration (NASA) and other stakeholders, so that once the solutions have been identified, the affected parties implement the safety enhancements and track their implementation for effectiveness. Ultimately, the knowledge gained is used to continually improve not only the U.S. aviation system, but aviation safety worldwide. Canadian and European authorities also participate in CAST.

**Current Safety Issues**

Current safety issues being addressed by our industry include runway safety, maintenance, fuel tank flammability, FAA oversight, air traffic controller staffing, operational errors and the safety of our employees.

*Runway Safety.*[9] Several high-profile events over the last 2 years have drawn attention to the issue of runway incursions, but runway safety has always been a high priority for the industry. For decades, airlines have recognized the challenges they face on the airport surface and have invested significant resources to ensure the safety of their passengers and crews. Unfortunately, there is no silver bullet when it comes to eliminating runway incursions. The solution is a layered one that integrates technological advances, better signage and markings, robust flight crew and ATC procedures and a better understanding of human factors and performance. ADS–B, a fundamental component of NextGen, will ultimately enable better situational awareness for flight crews, allowing them to see all traffic around them whether in the air or on the ground. Combining this real-time, highly accurate positional information with moving map displays will yield real safety benefits. In the interim, we are pleased that FAA is deploying several new systems designed to reduce the risk of runway incursions at our busiest airports. Enhanced automated surveillance tools like AMASS and ASDE–X, Runway Status Lights, perimeter taxiways, and EMAS, combined with heightened flight-crew awareness, streamlined taxi procedures and refined training, will help to reduce collision risk. We look forward to working with the FAA and airports to implement these new safety improvements.

In addition to runway incursions, the industry is focused intently on reducing the risk of runway excursions. ATA members, as well as pilot associations and the airport community, are actively participating in the recently formed Takeoff and Landing Distance Aviation Rulemaking Committee. The ARC will review current practices for determining runway distance needed under various conditions and revise the regulatory guidance accordingly.

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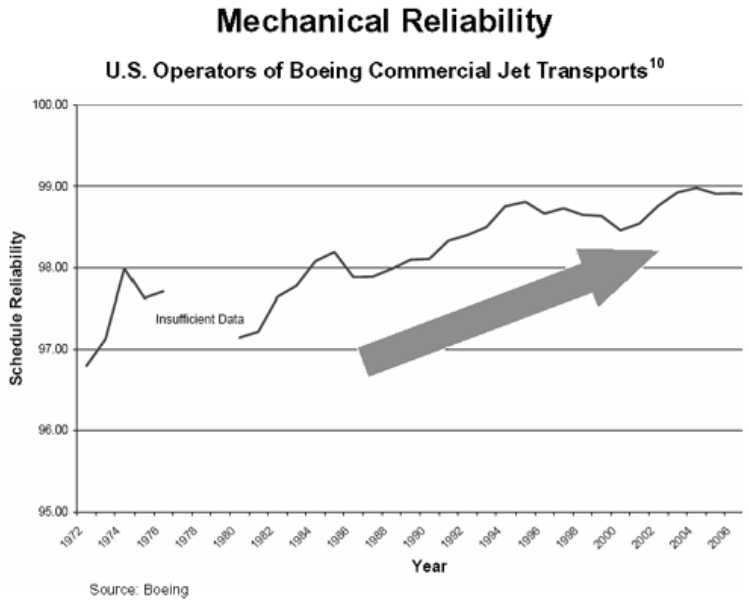
[8] The Federal Aviation Administration (FAA) developed the Aviation Safety Information Analysis and Sharing (ASIAS) system to enable users to perform integrated queries across multiple databases, search an extensive warehouse of safety data, and display pertinent elements in an array of useful formats.

[9] ATA testified on February 13, 2008, before the House Aviation Subcommittee on the issue of runway safety. Written testimony included details about the causes of runway incursions as well as specific actions taken and underway to reduce the risk of runway incursions. The testimony is available at *www.airlines.org.*

*Maintenance.* The recent FAA announcement of a large civil penalty against Southwest Airlines and the subsequent audit of Airworthiness Directive compliance has attracted significant attention to the subject of airline maintenance. Despite the isolated shortcomings highlighted, it is important to note that the U.S. commercial airline fleet is maintained to impeccable standards, which are reflected in mechanical reliability performance. As shown in the chart below for Boeing models (and noting that Airbus models perform comparably), airline maintenance programs are yielding unprecedented levels of mechanical reliability which, in turn, contribute to overall safety performance.




Effective and efficient maintenance programs play a central role in making air travel safe. Maintenance is a 24/7 function that requires careful organization, tight control, diligent oversight and robust quality assurance. Airlines have developed comprehensive—although not perfect—oversight systems to ensure that aircraft are maintained properly in accordance with FAA regulations and manufacturers' standards. As we have seen recently, tracking the accomplishment of hundreds of thousands of individual maintenance tasks is challenging. Even though a recent FAA audit of AD compliance revealed a compliance rate better than 99 percent, airlines are committed to further enhancements that will further improve an already robust system.

Beyond the scope and frequency of individual maintenance tasks is the contentious issue of who actually performs maintenance tasks and where those tasks are performed. Contract maintenance continues to be scrutinized with critics alleging that the practice is unsafe, yet the industry's safety record tells a different story. Repair stations (third-party maintenance providers certificated under Part 145) have and will continue to play a vital role in air carrier operations and enable U.S. airlines to compete effectively worldwide.

*Fuel Tank Flammability.* After the tragic loss of TWA Flight 800 in 1996, FAA initiated a multiyear research and development effort to address flammable vapors in fuel tanks. The effort produced a design that would reduce the amount of time that vapors are in a flammable state. The FAA proposed a regulation that would incorporate this new concept for commercial airliners, or other methods for preventing or mitigating fuel vapor explosions. The reduction concept does not diminish the need to eliminate ignition sources that could ignite the vapors. To prevent ignition sources, the FAA adopted sweeping regulations requiring improved design

[10] Data reflects technical delays greater than 15 minutes for Boeing 717, 737, 747, 757, 767, 777, MD11, MD80 and DC 10 models.

standards for fuel tank systems, reviews of existing systems with respect to the new standards, system modifications, specific operational procedures, and more exacting maintenance procedures. Industry continues to coordinate with the FAA and manufacturers as a stakeholder in developing these upgrades, which FAA has, since 1996, mandated through issuance of 170 Airworthiness Directives. Further, two ATA member airlines independently developed and gained FAA approval for a modification that may prove to be the single most progressive ignition-prevention measure developed to date. For both economic and safety reasons, airlines have, when practical, reduced their use of auxiliary power units while on the ground—a measure that can provide relatively modest reductions in the amount of time that vapors are flammable. Our studies indicate that a retrofit of currently available flammability reduction systems cannot be justified under government guidelines for rulemaking, and that actions taken to prevent ignition sources exceed FAA standards and are the most effective approach to mitigating fuel tank explosion risk.

*FAA Oversight.* FAA Inspectors work where 'the rubber meets the road' and are the central component of the FAA safety oversight system. They enforce regulations and standards concerning civil aviation safety, including the airworthiness of aircraft, the competence of personnel, and safety aspects of aviation facilities, equipment and procedures. The way in which they fulfill their mission continues to evolve with changes in oversight philosophy. FAA's risk-based Air Transport Oversight System (ATOS) leverages air carriers' internal oversight programs and advanced data-collection tools to create customized surveillance plans. Instead of searching randomly for deficiencies, FAA can efficiently identify and target potential areas of risk and work with the carrier to mitigate that risk. Make no mistake, ATOS does not preclude the need for FAA to conduct regular surveillance of air carrier operations. It is, however, one of many tools available to FAA and endorsed by the DOT Inspector General [11] to ensure that the operations of certificate holders conform to Federal regulations.

While ATOS remains a valuable component of FAA's oversight effort, airlines do not rely on ATOS to keep them safe. Airlines are responsible for ensuring that they operate safely and cannot delegate that responsibility.

*Air Traffic Controller Staffing.* Air traffic controllers make today's world-class aviation system work. They struggle to move growing numbers of aircraft through our Nation's airspace without the benefits of state-of-the-art technologies. Forecasted demand from a broad range of users will exceed the capability of our system despite the best efforts of our skilled controller staff. Unfortunately, today's system is not scalable—adding more towers, TRACONs, or centers full of controllers will not work. We must provide today's controllers with tools that enable them to safely increase the number of aircraft that they manage at a given time.

*Operational Errors.* Creating a safety culture that embraces voluntary reporting of safety information while effectively managing individual performance is challenging. The Air Traffic Safety Action Program (ATSAP), FAA's version of the ASAPs used so effectively within airlines, is a step in the right direction. We are optimistic that the ATSAP will generate valuable insight into the challenges air traffic controllers face and ultimately contribute to the safety and efficiency of the ATC system.

Operational errors have long been a contentious issue for controllers and FAA management. A minimum separation limit for aircraft, coupled with punishment for even slight violations provides a disincentive for controllers to optimally space aircraft. On the contrary, controllers are incentivized to add a buffer to ensure that the limit is not violated. This wastes valuable airspace and reduces airport throughput. We are encouraged that FAA is changing their approach to aircraft separation by adopting the concept of proximity events. The proximity event approach establishes a window within which the controller keeps the aircraft. This approach gives the controller an optimal separation target along with a buffer ahead and behind the aircraft to absorb fluctuations in airspeed. We believe that this approach ensures continued safe separation of aircraft, optimizes airspace usage and will reduce the risk of operational errors.

*Employee Safety.* Airlines continuously strive to make the work environment safer and more comfortable for employees, regardless of whether that environment is on the ground or in the air. Flight crews as well as passengers benefit from advancements in technology, such as the hospital-grade HEPA air filters and ozone converters now installed on most long-range aircraft, which improve cabin air quality.

[11] "We have always supported the concept of risk-based oversight as the only way FAA will be able to effectively oversee a large and rapidly changing aviation industry." Statement of the Honorable Calvin L. Scovel III, Inspector General, U.S. Department of Transportation before the House Committee on Transportation and Infrastructure, April 3, 2008.

Better data about cosmic radiation provided by the FAA CARI–6 computer program allows flight crews to monitor their cumulative exposure to radiation and make changes where necessary to protect their health. A close partnership with the Centers for Disease Control and Prevention (CDC) has ensured that airlines can pass along to employees up-to-the-minute information on disease outbreaks and precautionary measures.

Ramp employees face a myriad of threats as they load, service and move aircraft. ATA members collect and analyze detailed data related to employee injuries, as well as aircraft and equipment damage. This data-based approach enables carriers to identify risks and take specific actions to mitigate those risks. ATA collaborates with other key stakeholders to lead industry-wide changes, such as publishing safety guidelines/best practices, redesigning ground support equipment to make it more user friendly, incorporating advancements in personal-protection technologies, and establishing safety protocols for ramp personnel.

**Conclusion**

Notwithstanding the challenging environment in which airlines operate, the U.S. airline industry has experienced the safest period in its history. While hearings like this allow us to proudly reflect on this accomplishment, we understand that we cannot become complacent and rest on our accomplishments. Aviation safety demands constant vigilance, review and improvement. For this reason, we will continue to work with the FAA, the NTSB and the many parties with a stake in the continued safety of our industry. "Safety first" will continue to be our core principle.

Senator ROCKEFELLER. Thank you very much.

We do have 10 minutes left. So, Kay Bailey Hutchison and I have decided that we are going to give our opening statements, which will be brief. We will then have our votes, and we will come back loaded for bear.

First of all, it was very interesting for me to hear the difference between the panelists. Everything is just wonderful from FAA's point of view. I have to point out that I assume that your testimony was vetted by OMB before you gave it.

Mr. SABATINI. Yes, sir, it is.

Senator ROCKEFELLER. So that means that you are not speaking what you may think, but you are speaking what the administration wants you to say. I say that not to embarrass you or humiliate you, but simply to say this is what always goes on and it is important that people understand that.

Mr. SABATINI. Well, if I may, Mr. Chairman, I believe what I said.

Senator ROCKEFELLER. Yes, I am sure.

I also want to say that it is frustrating to me that during this time in which things, I think, have been spiraling downwards—I agree very much with you, Mr. Scovel and Mr. Chealander—that there remains this terrible tension between FAA and its unions. Neither side can put out enough press releases in order to downgrade the other more. Now, I have worked with lots of government agencies, but I have never seen anything close to this. One of our witnesses today has an upcoming contract, and yet, I cannot remember seeing that witness in my office, or in my staff's office or his predecessors in my office talking about some of the problems which he spoke about. This is not a way of functioning. If you want to deal with the Commerce Committee and the Aviation Subcommittee, you have got to do it straight up.

So I think the Federal Aviation Administration's lax oversight of Southwest Airlines is terrible—and, as you indicated, now we have American Airlines and others laying off employees, canceling flights day after day after day. It is almost like we stopped reading

the headlines except that it is a horrible situation. It is a perfectly dreadful situation. I think it is our job today to find out if these are just isolated incidents, as some at the FAA and Southwest contend, or part of a large, systemic problem facing both the agency and the industry.

When it comes to safety of the air traveling public, the American people put their trust in you all. In recent weeks, I think that trust has been put to a severe test. I know it has in my case, with the disturbing reports surrounding the lack of FAA oversight with Southwest, all of these cancellations that are taking place by American and others, and the revelations involving the FAA's Southwest Regional office.

Almost nightly there are news stories of major commercial airlines grounding hundreds of flights for maintenance inspections. All of a sudden, hundreds of flights. I do not know how you measure the damage caused to people with the inconvenience of you doing your work a little bit earlier so that this does not happen. But I know that you would come out on the losing side of that balance.

Bottom line. Each passing day brings more questions and no answers. Despite the growing questions surrounding FAA's oversight of the airline industry—and excuse me for saying this, it is not meant to be political, it was probably true in the previous administration—the White House and the Department of Transportation remain unbelievably and inexplicably silent. Silent. They just leave it up to you to take the blame. The administration should be assembling a task force to investigate this issue. It should have done so weeks ago and make recommendations for improving aviation safety. But they do not seem to be interested.

The FAA has taken some steps to rebuild the public's confidence in the Agency's core mission of maintaining the safety of the Nation's aviation system, and moving forward, the FAA needs to take a real good look at itself. The FAA is an agency spiraling downward and I think is losing the confidence of the American people and the Congress. So I think you have to take a look at yourself, and you have to figure out your external relationships with commercial air carriers and how that contributed to the current situation.

Many, including myself, have long criticized the Agency for being too close to the industry it regulates, a point that Mr. Brantley made. It started in 1996 with the privatization of the Agency. Congress grudgingly accepted provisions that would allow the FAA to operate more like a business in the hope that it would cost less to compete and to operate.

Well, the FAA is not a business. It is a government agency. The FAA does not provide commercial services. It provides public goods, which are air traffic control, aircraft certification, and safety oversight. We pay taxes for these services. You are not private. You are the result of our taxpayers' funds and, hopefully, our oversight.

Clearly, it is time to start thinking about FAA differently. Toward that end, we need the FAA to operate as a most efficient and effective government agency. It is a subtle distinction but one that I think is incredibly and deeply important. Bringing about institutional change is never easy, but when you have crises or near cri-

ses facing us it is necessary. Mr. Sabatini talked about how everything was getting better on incursions. Then you should look at the last 6 months, and you would find that incursion rates are headed right back up. So I do not have confidence in your analysis that everything is going well and you are striving for even higher achievements. I do not buy that for 1 second.

The air traveling public wants solutions. They want to be reassured that our Nation's aviation system is still the safest in the world. No doubt, many of the witnesses will remind the Committee that there has not been a fatal airline accident in almost 2 years. This argument makes me mad because you have mentioned an over 99 percent rate. We are working hard toward that last 1 percent. No. You have got to get a 100 percent right. You have got to be 100 percent right every single day. And you say this is statistically the safest time to fly. Well, let us hope it stays that way.

I have very serious concerns that there are an increasing number of safety challenges facing the FAA and the industry that, if left unaddressed, could lead to catastrophic accidents. Mr. Chealander mentioned this. For instance, the number of serious runway incursions remains unacceptably high, and they are trending in a troubling direction, *i.e.,* downwards. We have all read and seen stories of near misses at our Nation's airports. Let us be honest. Had it not been for the quick thinking and actions of a few air traffic controllers and pilots, our Nation would have had one, if not several, major incidents claiming hundreds and hundreds of lives.

So 99 percent does not impress me. Only 100 percent impresses me, and that is all you should be talking about.

I do not mean to be dramatic. I am being long. I will, therefore, conclude my statement and turn to Kay Bailey Hutchison.

**STATEMENT OF HON. KAY BAILEY HUTCHISON, U.S. SENATOR FROM TEXAS**

Senator HUTCHISON. Thank you, Mr. Chairman.

Let me say that I do think that things could be worse than they are right now. I do think things are bad. But worse would be if we had had a terrible accident and that is how all of this came to light. I am glad that it was not a terrible accident, but nevertheless, it has all come to light and I think it means all of us have to work together to make sure that the oversight is proper.

I am looking at the cancellations of flights. I have certainly talked to the airlines that are canceling these flights. And I know they are doing it out of an abundance of caution and safety should be first. Nevertheless, the inconvenience to passengers has to be addressed very, very promptly, and when the safety inspections are made and it is safe, the airlines need to do everything in their power to help the passengers who have been stranded. And I have imparted that to them.

So I think we are now looking at a couple of things. First of all, this is the Committee that has the capability to pass the FAA reauthorization bill. There are some very important parts of that bill that we need to have put in place. There are very tough negotiations not yet able to be had because there are such disagreements between the House and Senate, some disagreements between the Senate and the Senate, but mostly the House and the Senate.

I know Senator Rockefeller and I have met with the Acting Administrator and with the Secretary of Transportation together. We are both committed to going forward on that bill. But we are not going to move forward on the bill if it is going to do more harm than good, and some of the House provisions in our opinion would make it worse than it is now to just extend it. So we will be grappling with that issue.

When I was on the NTSB, the mission of the FAA was almost at cross purposes in some ways because it was the promotion of aviation as well as safety. That is no longer the case. Today it is a very clear mission of the FAA, and that is safety.

I do not disagree with the concept of the voluntary coming forward approach rather than the sort of crime and punishment approach because I think in some ways it has worked well. However, it will only work well if there is a real safeguard in the system so that if there is a lessening of the companies' vigilance on safety, that that would be captured very quickly and we would be able to address it within the system, meaning the FAA would be able to address it within the system.

So I think what I would be looking for from the FAA is that safeguard because I think having the collaborative culture has, in the main, been a good thing, and I think most companies realize that safety is in their best interest as well as in the public's best interest. So I think everyone has the same goal, but when you have a problem that we have seen happen just in the last few months come to light, then it is not just letting people come forward and be whistleblowers more readily—that is good—but we need something that catches it in the system earlier than that so that you would be able to detect if there was not a proper oversight.

So I think that what I am going to ask and what I would like to hear from you is how you think we can address this issue. Mr. Brantley brought it out. I think everyone on the panel has acknowledged that we need to do more to assure that the system works, but let us look at the ways we can do it and see what the FAA is going to propose and move forward together. That would be my goal.

So I thank all of you for coming, and I will look forward to having questions to see if we can do what is Congress' responsibility and then what the FAA proposes to do to police itself.

Thank you.

[The prepared statement of Senator Hutchison follows:]

PREPARED STATEMENT OF HON. KAY BAILEY HUTCHISON, U.S. SENATOR FROM TEXAS

Chairman Rockefeller, thank you for convening the hearing this morning. I would also like to welcome our panel. As a former Vice Chair of the NTSB, I intimately understand the crucial mission the FAA has in overseeing the Nation's airlines and aviation system. Aviation safety, and the public trust that goes with it, is the bedrock of our national aviation policy and we simply cannot allow for any degradation of service to the flying public.

As we will hear from the FAA, the U.S. commercial aviation industry is experiencing the safest period in history. I commend the FAA and the air carriers for an excellent accident safety record, but there is still much room for improvement. Fortunately, the recent incidents have involved oversight issues, not accidents or the loss of life. Everyone here today knows the stakes, and the loss of even one life is too many. There is always room for improvement in aviation safety, and the FAA needs to take that message seriously.

The collaborative safety system between the FAA and the air carriers has been effective; however, it is time for that system to evolve into the next generation of the Air Transportation Oversight System (ATOS). The FAA must make an earnest assessment and review of the safety foundation it has made and make some dramatic improvements no matter how difficult they may be.

This Subcommittee understands there is a fine line between voluntary disclosure of safety violations and the effective use of traditional regulatory enforcement. I think the Subcommittee also understands the movement away from a simple "blame and punishment" culture to a no penalty collaborative culture has allowed for significant strides in aviation safety. However, the FAA needs to be vigilant and take quick and corrective action whenever necessary, and the agency needs to strengthen its current regulatory role and processes.

Whether they are cultural, policy, or procedural changes, the FAA needs to be open to change and progress. I am increasingly concerned that the FAA will not learn from this situation and will maintain a "bunker mentality" instead of making the safety changes necessary to improve the system. I believe the FAA needs to heed the recommendations made by the Inspector General and work with the IG to revamp and improve FAA safety policies.

Finally, the recent incidents that occurred between the FAA and the noncompliant air carriers were an absolute failure on both the FAA and air carriers' part. Those directly responsible should be held accountable; such poor decisions by critical employees are not acceptable in today's safety culture. The recent incidents are an aviation safety wake-up call and everyone involved should use this opportunity to improve the operation of the aviation safety system.

Thank you, Mr. Chairman; I look forward to the testimony and to working with you on these important issues.

Senator ROCKEFELLER. Thank you, Senator Hutchison.

I think it would be wise if we went down and voted because by the time we get down there, it will be time. Let us come back, and then as I said, members will be given 7 or 8 minutes for questioning as opposed to 5, and they can include parts of their statements in their questioning if they so choose. So we stand in recess.

Senator STEVENS. Senator, I cannot come back. I would like to make a comment, if that is all right.

Senator ROCKEFELLER. Yes, please.

## STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

Senator STEVENS. I am a pilot and I have been a pilot for a long time. I think one of the things that the Inspector General and those who are checking these systems ought to examine is the updating of the diagnostic systems. For instance, I was just reminded of the number of times that we have gotten onto an airplane and oncoming pilots check the systems. The diagnostic system shows there is a light on, and everybody sits and waits for that to be checked. Why should that not be the job of the people who just left the airplane? The last pilot operating a plane ought to go through the systems and certify that there are no lights and no reason to have any maintenance.

Second, it does seem to me that what we need to do is develop the concept that one of my friends told me about, and that is that we have this paradigm now in the United States that we manufacture to perfection. Motors are built to be 100 percent perfect, and that is what the Chairman wants. But the way you check it is with diagnostic systems.

You mentioned the Alaska Airline catastrophe off of California. I had friends on that plane. I went out to check that myself. The jackscrew was the responsible item, and that did not have a diag-

nostic system on it. There was no way for the pilot to tell that that was fouling up. In normal operation, it could foul up.

Now, I do think what we ought to do in terms of this concept of the ongoing interest in the operation of our airlines is to assure that we do have the diagnostic systems that maintain the requirement for 100 percent perfection.

We are all talking about inspections. Very plainly—and I apologize for it—I do not think that the inspections are what we ought to be concerned with. I think we ought to be concerned with the diagnostic systems being in place and everyone knowing, before they get on that airplane, that the systems show that the operation is perfect. It does seem to me we ought to catch up with technology and rely on technology a great deal more than we do today in this maintenance system.

Thank you, Mr. Chairman.

[The prepared statement of Senator Stevens follows:]

PREPARED STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

Good morning, my thanks to Senators Rockefeller and Hutchison for holding today's hearing on aviation safety. Given the recent high profile maintenance incidents and the continued economic woes of the airline industry, it has never been more crucial that our aviation safety system is operating at its highest level.

The U.S. aviation safety system is a complex and redundant system that includes layers of coordination between many stakeholders including the FAA, air carriers, manufacturers, pilots, inspectors and controllers, amongst others. When the "safety first" culture breaks down, as in the Southwest Airlines incident, it is not acceptable.

The FAA and all the aviation stakeholders involved have a professional and moral responsibility to maintain the utmost level of aviation safety. In Alaska, the aviation community has worked hard to create an ever improving culture of safety. As I have told this committee many times, Alaska is dependent on aviation more than any other state. With the vast spectrum and sheer amount of commercial, cargo, combi, and general aviation in our state, it has been a challenge to continually improve our accident rates.

Through programs like Capstone, Alaska has been able to make dramatic strides in the area of aviation safety. The FAA and Alaska aviation industry stakeholders have set a long-term goal of equipping Alaska-based aircraft and installing ADS–B ground infrastructure to cover 90 percent of the operations in our state. By working collaboratively to reach that goal, the FAA estimates there will be a 33 percent reduction in fatal accidents over the next 27 years.

In addition, because Alaska has 6 times the number of pilots per capita compared to the Lower 48 and 14 times the number of aircraft, the aviation community initiated the medallion foundation. Medallion is a voluntary program for air carriers and pilots in Alaska that establishes safety standards that exceed regulatory requirements that help the Alaska aviation community detect safety trends or needs before actual accidents occur.

The benefits of Capstone and Medallion would not have been realized without the collaboration between the Alaska aviation stakeholders and the FAA. The FAA can learn a valuable national lesson from the Alaska example.

While the process of change is almost always difficult for both the FAA and the stakeholders involved, the safety benefits far outweigh the angst it took to get them. The FAA needs to take a renewed look at the way it implements its aviation safety partnership programs. FAA needs to thoroughly review the recommendations of the DOT IG and take quick corrective action to address the problems.

Mr. Chairman, at this time, I also have a copy of prepared written testimony from the Alaska Air Carriers Association that I would like to submit for the formal record. I ask that it be included as part of today's hearing [published in the Appendix of this hearing record]. Thank you, I look forward to the testimony.

Senator ROCKEFELLER. Thank you, Senator Stevens.

Senator Inouye has some comments.

## STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

The CHAIRMAN. I thank you very much.

Perfection may be impossible to achieve, but I agree with Chairman Rockefeller that it should be our goal, even knowing that perfection cannot be reached.

Having said that, my first flight on an aircraft was in 1944 in Italy. It was a thrilling experience. Since then I have done much flying. Two weeks ago, I received a certificate from one of the major airlines congratulating me on 3 million miles flying. And I suppose if you add the other airlines that I have flown on, together with military aircraft, it must have exceeded 4 million miles, close to 5 million.

The only problem that I remember, during all these hours of flying, was landing in Honolulu from Los Angeles on two engines. Two engines were put to rest and we landed on two. It was a perfect landing. No one got hurt.

I want to say that I have concluded that the safest way of traveling is by air. I think it is much safer than going from a residence to the shopping center or traveling to and from work.

But having said that, I would hope that we will be able to do what the Chairman suggested and strive for better statistics, not 1 in 15 million flights, but maybe 1 in 50 million flights.

So with that, I would like to thank all of you for having done your best to give us safe travel. I have other concerns which I will ask when my time comes around.

I do not know why, but I suppose it is culture and tradition that we frown upon snitches and whistleblowers. But in this day and age, whistleblowers play a very important role, and I hope you take them seriously.

Thank you very much.

[The prepared statement of Senator Inouye follows:]

PREPARED STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

The traveling public has been very fortunate that despite the recent publicized lapses in safety inspections and maintenance, we are currently experiencing the safest period in the history of aviation.

Safety is the paramount consideration upon which our commercial aviation system was built. It should be the highest priority for air carriers and the core value for pilots. This single-minded focus on safety has served the U.S. aviation industry well. And it must always serve as the primary guide for all the decisions made by the FAA.

Unfortunately, the aviation industry's safety reputation has been recently tarnished. Last year, this Committee's hearing on the FAA's oversight of repair stations raised significant questions about whether the agency has the ability and the resources necessary to keep track of the complex, global operations of many air carriers.

Equally disturbing are the recent revelations that airlines have not complied with a number of Airworthiness Directives. Over the past 2 days, American Airlines was forced to cancel approximately 2,100 flights in order to re-inspect wiring on their MD–80 aircraft. As a result of the incidents reported over the last few months, I have serious concerns about the FAA's ability to maintain a vigilant safety oversight program.

It is my hope that this hearing will provide us with a better understanding of how these recent lapses in safety occurred and what the FAA is doing about it. The Congress will not tolerate poor oversight of the safety of air travelers.

As we proceed with the reauthorization of the FAA, we must ensure that Congress provides the agency with the resources necessary for effective oversight of our

commercial aviation system. We must also consider what additional authorities may be necessary for the FAA to ensure that safety remains the hallmark of the U.S. aviation system.

At the same time, the FAA must vigorously ensure that commercial air carriers are complying with their safety mandate in a thorough and timely manner.

The traveling public may be assured that this Committee will continue to monitor the FAA's and the aviation industry's efforts to improve on its safety record.

Senator STEVENS. Mr. Chairman, we could do a lot if we just got that renewal of our aviation bill, the FAA bill out. I think some of the changes that are mandated in that bill would be very helpful in this discussion.

The CHAIRMAN. Yes, sir.

Senator ROCKEFELLER. We stand in recess.

[Recess.]

Senator ROCKEFELLER. Members are returning. We had three different votes, which is a lot of time, and we apologize.

I am going to go ahead with my questioning. I will start with Mr. Chealander. I made the comment in my opening statement that I believe that the U.S. aviation system may be operating on borrowed time before another major accident. Do you share that view?

Mr. CHEALANDER. I will say that, as we pointed out in our testimony, the runway incursion issue is one of our hottest and major topics. I was asked a question just a day or so ago that goes along with your question, Senator, and that is, where do I expect the next major accident or incident to happen. And I believe it is in that area.

We are working very hard on that. I would not say that we are all standing around waiting for the next shoe to drop, but we are working very hard on, as was pointed out earlier, the layers of safety and protection that we can recommend be put in place to stop those runway incursions from being a catastrophic accident. So runway incursion I believe is the direction that we are looking at the hardest to try to prevent an accident from happening.

Senator ROCKEFELLER. A question for Mr. Sabatini. You know, American Airlines canceled 1,000 yesterday, 900 today. I do not know what all the other scores are because I did not really have a chance to read the newspapers. But it is catastrophic economically, and it is an embarrassment to the Nation. I cannot imagine what people in Indonesia or Japan are thinking about this. Some people would say I do not care. I do care because it is who we are as a Nation, and it does not strike me as impressive right now.

American Airlines recently grounded its fleet of MD–80 aircraft for a second time. Other carriers have done the same thing to make sure they were in full compliance with FAA regulations. This has, obviously, caused a volcanic disruption which, in and of itself, is unthinkably uncouth.

If the FAA had conducted more regular and frequent compliance audits on the industry, would you have caught these problems earlier, and had you caught them, would there have been less disruption for consumers?

Mr. SABATINI. Mr. Chairman, that of course, would be a speculation on my part, what would have happened.

But I can tell you, Mr. Chairman, that this is a system where I have 3,800 FAA inspectors and there are hundreds of thousands of safety professionals in the industry who have the primary re-

sponsibility of the compliance. Our oversight system is one of assuring compliance. We have put in place the ATOS system, which is far more robust in identifying these areas. We identified them as areas of risk. And we are at a point in time talking about——

Senator ROCKEFELLER. You are not answering my question. You do understand that. I did not ask you about what you are doing to prevent this from happening. I am asking if you had done a better job before, would some of these cancellations have been forestalled?

Mr. SABATINI.—if this had been identified at another point in time, I believe the outcome would have been the same. The carrier was not in compliance with an Airworthiness Directive. We brought that to their attention, and they made the right decision. They put those aircraft on the ground until they could demonstrate compliance.

Senator ROCKEFELLER. Yes, they did, but the fault did not all lie with them. I would just say that for the moment.

Let me go on as you defend the FAA. You have stated that Southwest improprieties and safety violations, including missing structural inspections on 46 jets, resulted from a "failure on the part of the leadership at the regional level." That makes me want to ask a couple questions.

What responsibility do you bear? What responsibility does the senior leadership of the FAA bear for letting this situation spiral out of control? Is this one of those things like Abu Ghraib where you sort of get rid of the people way down low, but nobody up top ever has to be accountable? What responsibility do you bear for this?

Mr. SABATINI. I am ultimately responsible for the safety organization, sir, and I am taking all the action that I need to take to address what we have learned. That was a failure, as I have said, on the part of people, people who failed to discharge their duties as they are required to on both the FAA side and on the air carrier side.

Senator ROCKEFELLER. So you are responsible, but you do not have to take responsibility. You do not have to be accountable. You are responsible, you do not have to be accountable.

Mr. SABATINI. I am accountable, sir.

Senator ROCKEFELLER. Well, if you are accountable, you should have been howling in my office and Kay Bailey Hutchison's office some time ago. It just gets into that whole syndrome of where punishment should occur. If you want to punish somebody, you punish individuals at a lower level and always refer to a regional problem. It is never your fault. It is a regional problem. Well, the regional problem is, in fact, FAA headquarters because you control the region. So I am not satisfied by your answer, but I will go ahead.

What responsibility do you and the senior leadership of the FAA bear for letting this situation spiral out of control?

Mr. SABATINI. I am not sure exactly what it is that you want me to say, Mr. Chairman. I am accountable and I am responsible, and I take my responsibilities very seriously. I have been a safety professional my entire adult life. I have been in public service and have been dedicated to public service and I accept that responsibility. And I want you to know that I take what has happened

very, very seriously. I am not a theorist about safety. I have started in this organization as an inspector. I know the business from the bottom up and I take what happened very, very seriously, sir. And I do hold myself accountable.

Senator ROCKEFELLER. Sometimes when people have been in office for a very long time and they have worked very hard to work their way up through the bureaucratic ranks so they can get to be in a position as high as you, they have to make certain compromises. I am not saying that you have, but I am, nevertheless, putting that out there.

Why did other senior leadership in Washington not step in and address the severe management problems at the Southwest Region office?

Mr. SABATINI. We did, immediately upon it coming to our attention. When we became aware of what was going on and the gravity of what was taking place, we took the action that we could take.

Senator ROCKEFELLER. Well, Mr. Stuckey was the head of the regional Flight Standards office who supervised government inspectors assigned to Southwest. He works for the FAA, for you. You have removed him from all safety oversight responsibilities and transferred him who knows where. Yet, he remains on the FAA's payroll. Now that may be because you have due process in terms of terminating employees. So I also assume that once this process is completed, he will no longer be an FAA employee. Am I correct?

Mr. SABATINI. Well, let me make a statement, sir, that does not prejudice any future outcome. We are looking into this and investigating it thoroughly. I would not want to prejudice a future outcome. As you well know, in civil service, everyone has rights, and we have got to honor those rights.

Senator ROCKEFELLER. It sounds very much like the Department of Defense where nobody at the top ever gets fired. No three stars, no four stars, just people lower down.

My follow up question, then I will stop. Will the FAA act against any other senior managers in headquarters office? And if not, why not? You are accountable. You are responsible.

Mr. SABATINI. I will say again, sir, that we will examine everything surrounding this circumstance and we will take whatever action needs to be taken.

Senator ROCKEFELLER. Yes. I have been told to move on.

Senator Hutchison?

Senator HUTCHISON. I want to clarify with Mr. Sabatini that the regional administrator of the FAA who was responsible for the incident with Southwest Airlines has been removed. Is that correct?

Mr. SABATINI. He has been relieved of the duties he had in the Flight Standards Division, which would be the ranking senior person in the Flight Standards Division in the Southwest Region.

Senator HUTCHISON. Correct. And there would be nothing that you could do that would overcome your legal requirements to give that person all of the due process that the law requires, which is why you could not say he has been fired or would be fired at this time. Is that correct?

Mr. SABATINI. That is correct.

Senator HUTCHISON. Let me ask you this because I think, from what I have learned, that the issue is being addressed after the

fact with what happened between Southwest and the FAA. However, I do want to ask you to be more specific—and others on the panel may come in on this—about what would be the trigger in the procedures that would allow this to come forward much earlier than it did with the Southwest case?

Mr. SABATINI. Well, Senator Hutchison, you made a very important comment in your opening statement. We are here today not post-accident, but at a point in time where the system is incredibly safe. And I also said it is that tiny little percentage that keeps me awake at night continuing to look for remaining risks.

This is an opportunity that has been brought to our attention and which was a failure and requires attention. What we have realized about what happened at Southwest is that people who have a safety concern did not have a direct mechanism to elevate it to people like myself.

I am putting in place a system where it is going to be documented with a control number. Any safety professional working at any level in our organization can feel free, without fear of repercussion, to come forward and document what it is that they want to have discussed, entitled to resolution, and if not resolution, then it continues to be elevated all the way up to me. It will be subject to a review and we will hold people accountable that this process works. It will be finalized by the end of April, and it will guarantee that people in a safety culture like ours will be encouraged to come forward to express their concerns. We have an organization of very experienced people who have safety backgrounds and have differences of opinion. We need to be sure that we resolve those differences of opinion in a constructive manner because we want to better serve the public.

Senator HUTCHISON. I want to bring up one other point, and then I want to ask anyone else on the panel who would wish to speak on this. At this point, is it correct that a person who works for a company cannot go into the FAA system and oversee or be in the process of overseeing that same company for a period of 2 years? Is that correct?

Mr. SABATINI. That is true.

Senator HUTCHISON. Do you think that there should be a complete ban on that capability, or do you think there should be a different number of years beyond which a person could then go back and work with the company from which they came and are now on the other side of the safety inspection process?

Mr. SABATINI. We are going to initiate a rulemaking project which will address that, Senator. We are going to basically have a rule that will prevent a person who would be a former FAA person to be hired by an air carrier and then have direct interface with the FAA. We are looking for a 2-year moratorium before that person can have interaction with the FAA if they have been a former FAA employee.

Senator HUTCHISON. But are you looking at keeping 2 years as the time?

Mr. SABATINI. Well, currently people that we employ who come from the industry have a 2-year moratorium before they can have any direct oversight responsibility of a previous employer. We are

going to basically just have a mirror image of that when someone leaves the FAA.

Senator HUTCHISON. And you think 2 years is the right amount of years?

Mr. SABATINI. I believe it is. I think history has shown that that seems to be an adequate period of time.

Senator HUTCHISON. I would like to have any other views on that. Mr. Brantley or Mr. Chealander?

Mr. BRANTLEY. Senator, yes. We do believe that having the same cooling-off period going both ways would be appropriate, and something in the 2- to 3-year time-frame would be adequate, yes.

Senator HUTCHISON. And do you think that a complete ban would be not reasonable, not realistic?

Mr. BRANTLEY. By complete, are you referring to no timeframe, just——

Senator HUTCHISON. Just that a person who comes either way, industry to FAA or FAA to industry, that it would not be the same company ever. Is that not realistic?

Mr. BRANTLEY.—to be honest, I had not considered that, but that is certainly a possibility. It is not as if there are not plenty of other companies to work for or to do oversight on. So I would consider that and get back to you.

Senator HUTCHISON. We would have to think it through, I know, but I just wondered if there are enough professionals capable of going either way. But I think we ought to look at—if you are going to do a rulemaking at 2 years, I think we should certainly look at comments on whether that is the realistic time.

Mr. Chealander, did you have anything to add to that?

Mr. CHEALANDER. Only that in my own instance, which is about all I can draw on because from the NTSB's purview, we do not investigate accidents and find whether a moratorium on employment was an issue or not, nor do we any data to identify that. But in my situation, for instance, coming from private industry, an airline in specific, and coming to the Federal Government and the NTSB, I had to sign an ethics agreement that recused me from that airline for ethical reasons. So I can just only cite the example of myself and use that in the thinking as to whether or not that is a good idea.

Senator HUTCHISON. Thank you very much.

Thank you, Mr. Chairman.

Senator ROCKEFELLER. Thank you, Senator Hutchison.

Senator Lautenberg actually came in. So, Senator, you are up.

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

Senator LAUTENBERG. Thanks very much, Mr. Chairman. I would like to proceed first with my opening statement. As I understand it, we will have the questions included in the same timeframe. So I thank you, Mr. Chairman.

Since we are now discussing some things that I have talked about on a continuing basis, I appreciate the fact that we have got a chance to review some of the specifics. Some of them are so current that it is hard to believe that, though the reasons for the problems were obvious, so little was done at the FAA.

Every day more than 2 million men, women, and children board planes across America with a trust and an expectation that those airplanes in our aviation system are safe.

And Mr. Sabatini, I refer to some part of your testimony. You said a total 1,451 commercial operations were conducted by Southwest Airlines in violation of the law, putting thousands of people at risk. And I want to keep that in mind as we go further because that issue does not square with the activities of FAA and with the safety inspectors.

The Bush administration's FAA has abused trust by putting people's time and their safety at unnecessary risk. Now, some may argue, as you said, that this has been one of the safest periods in aviation history. Thank goodness it has happened, but it has happened in spite of FAA policies, not because of them.

Far too often we have had to rely on quick actions of pilots, air traffic controllers, other professionals, even people who are working for the airlines on the ground to keep our families safe. We also had the benefit of some improved technology over these last years, some of it fairly small in terms of increments, but nevertheless important, and we have to continue that.

But we have seen record flight delays, increases in near collisions on our runways, understaffing of controllers and safety inspectors.

And the FAA has mismanaged the redesign of the New Jersey-New York airspace, and that has led to planes flying in the wrong direction over a highly congested region, creating potential safety problems.

Recently we have seen disturbing reports about safety inspection failures, letting planes filled with passengers take off with cracks in their hulls. These failures were not isolated to just a few planes, as now we all know. In fact, one airline alone missed hull inspections on 47 different airplanes.

Similar inspection failures have caused five of our country's largest airlines to cancel thousands of flights, most recently American Airlines, with over 2,000 flights canceled. The pattern is not only disturbing, but obviously, it is unacceptable. There are several pending investigations of these failures, including ones by the Inspector General, the FBI, and Congress. And I look forward to hearing their findings and to acting upon them.

Mr. Chairman, I regret to say that this is a management failure at the highest level of the FAA, but instead of providing innovative leadership and changing the way the agency does business, President Bush is opting for more of the same. And he has nominated Robert Sturgell, FAA's second in command for the past 5 years, to take over at the agency. Now, I do not get that, I must tell you. Mr. Sturgell has to be held accountable, not promoted.

And these recent problems also make it clear that we must pass a reauthorization bill for the FAA pretty soon. Chairman Rockefeller has worked hard on this subcommittee and the full Commerce Committee to accomplish this goal, and I applaud your efforts. And I am going to do my part to get that bill passed, which I hope will include runway safety legislation that I have proposed for some time now, and will soon introduce.

I thank you, Mr. Chairman, for the opportunity to move along with this.

Since 2003, Mr. Sabatini, the FAA's customer service initiative has let airlines blow the whistle on who they think are bad inspectors, but it took until last week for the FAA to create a way for its own inspectors to blow the whistle on bad airlines. Why has the FAA been putting the concerns of the airlines ahead of the concerns of your own safety inspectors? I do not get it. Please tell me why.

Mr. SABATINI. Mr. Chairman, our primary motivation here is the safety of the public. We absolutely know that the public is our customer.

And I believe there is a misunderstanding about the customer service initiative. I will be very happy to change the name of this initiative, but it was primarily designed, sir, so that we could have consistency. What was known about our organization is that you could have one decision made on the East Coast, for example, and on the very same regulation, a different decision made on the West Coast. And we need to be consistent and standardized. And that is the purpose of that initiative, that any decision made anywhere in our organization by the FAA needs to be consistently applied everywhere throughout the system. It was not intended nor ever designed to allow people to complain to have inspectors removed from their areas of responsibility.

Senator LAUTENBERG. Well, it certainly has not encouraged people to blow the whistle, people who have no funded interest in these things.

Mr. Brantley, do you have a comment to add on this?

Mr. BRANTLEY. Yes, thank you, Senator. I think regardless of the intent when it was developed, the customer service initiative has become a bit of a weapon rather than a tool for inspectors. And I would be hard-pressed to imagine how any kind of good is coming out of it at this point because people do not trust it, the inspectors that should be able to rely on it to help them.

I think one big thing not to overlook—and I think you alluded to it, Mr. Chairman—there is a culture, a philosophy within the FAA right now that encourages this type of activity. And until that changes, all the programs, all the hotlines in the world will not make a bit of difference. People right now feel they do not have the right to speak out, and if they do, they will be targeted. And adding another hotline will not help that.

Senator LAUTENBERG. Thanks, Mr. Chairman.

Senator ROCKEFELLER. Thank you, Senator Lautenberg.

Senator Klobuchar?

Senator KLOBUCHAR. Are we going every other one? I am glad to go. I just wondered if it was Senator Snowe's turn.

Senator ROCKEFELLER. Do you want to fight?

[Laughter.]

Senator KLOBUCHAR. No. I think in the proper order that perhaps she would go.

Senator ROCKEFELLER. Were you here first?

Senator SNOWE. Yes.

Senator KLOBUCHAR. Yes.

Senator ROCKEFELLER. Then Senator Snowe. The Chairman made a mistake.

**STATEMENT OF HON. OLYMPIA J. SNOWE, U.S. SENATOR FROM MAINE**

Senator SNOWE. I thank the Senator. See, there are senatorial courtesies. Thank you, Mr. Chairman.

I want to thank you all for being here.

This is, obviously, a crucial hearing with respect to aviation safety, without question. I think we are all stunned by, I think, the breath-taking lapses in leadership in enforcing safety standards within the FAA.

We have had this debate within this committee, I well remember, 10 years ago after the crash of ValuJet. We debated and I was championing the initiative about eliminating the dual mandate within the FAA charter to promote the aviation industry, but at the same time, it had the responsibility for being dedicated to upholding safety standards. And it seemed to be conflicting and contradictory missions and responsibilities, and I wanted them to transferred to other offices in the Department of Transportation so that the FAA could singularly focus on the question of safety.

And I see a systemic breakdown here, as I think has already been illustrated in Mr. Scovel's, Mr. Chealander's, Mr. Brantley's testimony. I know, Mr. Sabatini, you indicated in your remarks that this is an isolated incident, but I certainly do not see it that way.

I think at the heart of the problem is the culture at FAA, and hearing here today not only that—the whole idea on Southwest and then it is Northwest—I mean, the breadth of the problem and the dimensions of the problem and the fact that inspectors were fearful bringing to superiors' attention, and when they did, they feared penalties. They had to resort to whistleblower protections in order to do their jobs. I mean, that is unconscionable.

So there is a breakdown. There is a breakdown within FAA, and the sooner that you and all the leadership at FAA recognize that, the better off we will be and, more importantly, the passengers who are flying across this country by the millions.

I mean, that is what we have to deal with now because it is clear that passenger safety was put at risk. I mean, when 46 Southwest Airline aircraft were flying even in spite of failing inspections and even was encouraged to fly by a supervisor, I think it is an indication of the depth of the problem within FAA. It is not an isolated incident.

And in looking at the Inspector General's testimony and report, it seems to me it speaks volumes about the actions that need to be taken to reverse the situation within FAA. I would like to hear from you today that you are going to embrace those recommendations and going to reverse the situation within FAA because if it is a collaborative, cozy relationship which, by all indications, it appears to be and that safety was placed secondary to all other issues, whether or not to allow airlines to avoid penalties through the self-disclosure mechanism, whether or not to rely on self-disclosure, knowing full well that the FAA inspectors were not conducting those inspections. When more than 70 percent, I think Mr. Brantley indicated, were sitting at their desks rather than conducting the inspections, we truly have a major problem.

And I think more than anything else, in order to rectify a problem, you have got to recognize it, acknowledge it, understand it, and do something about it. And I hope that in this hearing and the other hearings that you are a part of, that you will express that because if you do not, then we are going to continue to have the problems that are pervading FAA today. And that is just the beginning.

I mean, we not only have a lack of inspectors, but we are also deficient in air traffic controllers. I know that has happened in Maine, but it is throughout the country. Many of them are going to be retiring and they are retiring in unprecedented numbers, and many of the trainees are being rushed through a program without understanding the comprehensive dimensions of the air traffic control system. If you have a lack of inspectors, which has basically been the backdrop for the safety regime within the FAA, and now that we are learning all that we are currently, clearly this is a crisis.

So I would like to have you explain to me exactly how FAA is going to go about redressing these issues and accepting the Inspector General's recommendations. What steps are going to be specifically taken in order to address that? Because clearly, it is a cultural problem. Before it was promoting the aviation industry and also doing the dual responsibility of upholding safety standards.

Now it is the customer service initiative that, obviously, is complicating matters here. It is one thing to have a working relationship with the aviation industry, but you can never lose sight of your primary mission and what the intent and purpose is of the FAA and what your responsibilities are designed to do and to uphold, given what is at stake.

So what do you intend to do within your position at FAA to embrace the Inspector General's report and all the other recommendations that have been made here today with respect to what has happened within the FAA?

Mr. SABATINI. Thank you, Senator.

I would first like to say that my organization is the largest it has ever been, thanks to the help of the Congress in getting us to the size of an organization that we are today. Over the past 3 years, we have added over 400 people, about 430 people, to the FAA inspector ranks.

And I will tell you that what we see in terms of real evidence of what failed, it happened in the Southwest Region. Please do not take that to mean that I am discounting that it could potentially be happening elsewhere. No one today has provided me the objective evidence to, in fact, say it has.

But having said that, I can assure you that I am addressing this from a systems perspective. I am going to put in place, as I mentioned earlier, a process. Some may not like it in terms of referring to it as just another hotline. It is not. I will hold myself and every person in the management chain of command accountable to assure that we have an atmosphere where inspectors, safety professionals can come forward and air their differences and have it resolved. And I will have a process in place that will assure regular review of these situations that arise. They will have control numbers and they will be known to me.

I will also put in place, as I have mentioned, actually requesting a project for rulemaking, and that is, requiring that inspectors who are hired by an air carrier cannot have direct interaction with the FAA for a 2-year period.

And we are going to change how a voluntary safety disclosure can be given to the FAA. We are going to require that only people who are officials, high level officials, in the airline can be the persons who can come forward to the FAA and submit a self-disclosure that has not been previously known to the FAA. And on the FAA side, we are going to require that only an office manager can accept that. And those will be subjected to review.

As far as Airworthiness Directives, which, as you well know, are very technical and complex engineering documents, what we have learned here is that there are technical interpretations, but you have got to be fully compliant. You cannot just be a little bit compliant. And that is basically what you are seeing here with carriers canceling some flights. They must be in compliance.

So we are going to review that entire process and have greater involvement so that we do not face this kind of a situation again.

Senator SNOWE. May I ask, Mr. Scovel? Because I think this is a critical issue as to whether or not you feel that FAA is on track to adopt many of the recommendations that you have made and many of the issues that you have disclosed within your report because this wink and a nod by inspectors and supervisors within the FAA is clearly disturbing when it comes to what the potential down side would have been for placing people in life-threatening situations.

Mr. SCOVEL. Thank you, Senator. I appreciate that you have clearly read our testimony and endorsed our recommendations. They were very carefully planned as a "road map" for FAA to improve safety oversight. We believe the Agency can do so, but it requires will, and we have seen on too many occasions, as you just put it, a wink and a nod from FAA instead of a demonstration of true will.

My testimony references a couple of our reports that examined the ATOS system and its nationwide implementation. In 2002, we reported that CMOs were inconsistently applying the ATOS system across the country. We recommended that FAA provide stronger national oversight and implementation and we were assured in 2002 that the newly appointed Flight Standards Division Director would undertake that responsibility. It did not happen.

In 2005, we again examined the ATOS system and found that 26 percent of key inspections were not conducted and that half of those were in risk areas. Our recommendation was the same as in 2002: FAA needs to provide national oversight and should not push it down to the region or decentralize it to autonomous CMO's. Instead, FAA should bring it up to the national level and exercise some control. That recommendation from 2005 remains open.

Had FAA implemented our recommendations from 2002 and 2005, it is possible that we would not be here today because Southwest's AD compliance program would have been included in a robust national oversight program to help FAA follow its own procedures with regard to ATOS.

Senator SNOWE. Thank you, Mr. Chairman, and thank you.

Senator ROCKEFELLER. Thank you, Senator Snowe.

Senator Klobuchar?

**STATEMENT OF HON. AMY KLOBUCHAR, U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you, Mr. Chairman.

This hearing comes at a critical time for the FAA with the recent GAO report that revealed that air travelers really do face a high risk of catastrophic collision on U.S. airport runways. It highlighted the malfunctioning technology. It highlighted the issues with the FAA, as well as overworked air traffic controllers.

On top of the study, in recent weeks we have learned of aircraft skidding off of runways and crossed wire sections and pieces of airplanes falling off in mid-air.

Most recently we learned of the Southwest issue with nearly 50 planes in need of required inspections for fuselage cracks.

And just yesterday, American Airlines grounded 1,000 planes, and today they have canceled more than 900 additional planes. All of this in order to double back and conduct inspections that should have been done as a matter of routine.

The disclosure of these safety lapses and the thousands of flight cancellations—you just turn on any news program today and you see the people stranded there—leads to questions about the current inspection policy.

Now, as I understand it, this voluntary inspection policy has some merit, but it was designed to go hand in hand with rigorous enforcement. Unfortunately, in recent weeks we have heard, as Mr. Scovel described it, of an overly collaborative or, some might say, cozy relationship between the inspectors and those that they are supposed to enforce the law against. And to some inspectors' views, the FAA considered these airlines to be their customers. And I think one underlying principle that has to be clear here is the American public is the customer and not the airlines.

So with that in mind, one of the things I wanted to know from you, Mr. Sabatini, is do you think it is time for some soul-searching like we had after some of the crashes in the mid-1990s to make some changes?

Mr. SABATINI. The safety model is always subject to review, and it is an ongoing 24/7/365 activity not just by the FAA but the other safety professionals in the industry. And I want to make it clear we know that the public is our customer and that safety of that flying public is what we are addressing each and every day.

And if you take a look at what happened since 1997, we have significantly reduced the accident rate to where we are today. And again, that is not to rest on our laurels. It is just that you have to know history to understand where you are going into the future, and the safety model is a very good model. Can it be improved? It absolutely can. I take this as an opportunity to learn more, and we are taking steps.

And I would like to address what the Inspector General said. He has proposed certain initiatives to undertake. We are undertaking most of those, and I would also like to, for the record, say that we have made a change in one of those recommendations that were brought to our attention in 2002 and 2005.

Senator KLOBUCHAR. But I think Mr. Scovel's point was—I do not want to put words in his mouth—that some of these recommendations were made before. They were not followed. I guess I would ask Mr. Scovel. You heard what Mr. Sabatini said. I went through all of your recommendations. One was that there should be a cooling-off period. Do you think that his proposal addresses that?

Mr. SCOVEL. It will. Of course, we will need to examine the details. We think it is the key one because, again, it comes straight from the Southwest incident, in which an FAA inspector went to work for the airline he used to oversee in September 2006. Shortly after that, there were AD overflights or violations reported to FAA under the Voluntary Disclosure Reporting Program.

Senator KLOBUCHAR. And how about this idea that you rotate where the inspectors are? Do you think Mr. Sabatini has addressed this?

Mr. SCOVEL. We intend to work that out.

Senator KLOBUCHAR. So he has not addressed that yet.

Mr. SCOVEL. We have discussed it. In fact, he and I have talked on the telephone at least twice in the last week since our appearance together over on the House side. We understand that there are union concerns and contract concerns with FAA when it comes to their inspectors.

Senator KLOBUCHAR. One of the things that I have heard about is this gaming of the inspection process. For instance, the FAA may tell the airline on Monday they are going to inspect it on Wednesday, and the airline then discloses its safety problems on Tuesday. And the airline then avoids the penalty under the Voluntary Disclosure Reporting Program.

Do you see this as a problem? I guess I would like both of you to address that.

Mr. SCOVEL. I can say that there is certainly the appearance of that at Southwest. We have not been able to determine that exact sequence. Customarily, I know that.

Senator KLOBUCHAR. But if it was occurring, would you see that as a problem?

Mr. SCOVEL. Absolutely.

Senator KLOBUCHAR. Mr. Sabatini?

Mr. SABATINI. If that was occurring, I would absolutely agree with the Inspector General. That is a problem. But the guidance is very clear, and we are going to reinforce that guidance that that is absolutely unacceptable.

Senator KLOBUCHAR. Another issue that has come up is that under the Voluntary Disclosure Reporting Program, airlines are not penalized for self-disclosing the same item repeatedly as long as it is determined that a comprehensive fix was satisfactorily completed and followed.

To what extent do the airlines repeatedly disclose the same safety problem under the Voluntary Disclosure Reporting Program? In other words, does this allowance for the disclosure of repeated safety problems without penalty effectively encourage airlines to address the underlying safety problem? Mr. Scovel, first.

Mr. SCOVEL. Yes, that certainly is a problem, as highlighted by the events at Southwest. We have not had an opportunity to exam-

ine the rest of the industry. We are anticipating a request from the House Transportation and Infrastructure Committee to do exactly that.

In taking Southwest as a case study, however, we had eight violations of four ADs since December of 2006. Had there been comprehensive fixes to the entire AD compliance system within Southwest, there may not have been future AD violations including the one in March that brings us here today.

Senator KLOBUCHAR. Mr. Sabatini?

Mr. SABATINI. Let me say that what happened in Southwest causes me to be outraged. I am absolutely outraged.

Senator KLOBUCHAR. But do you see it as an individual problem, or do you see it as systemic when you know that American Airlines has now grounded almost 2,000 flights? Is it not more than just one incident, but a systemic problem with the way the system is working?

Mr. SABATINI. Well, the issue with American is not a voluntary disclosure. That was a finding by our own inspectors. But I would agree this is not what was intended, and I do not have any evidence that it is happening on a widespread basis. But having said that, we are going to take steps to make certain that that does not become a widespread circumstance.

Senator KLOBUCHAR. Thank you very much.

Senator ROCKEFELLER. I should be calling on Senator McCaskill, but I have to leave and Chairman Klobuchar will be running the deal.

Senator KLOBUCHAR. Now I am in real trouble.

That is what I get for getting here late.

Senator ROCKEFELLER. Three points to make.

The NTSB has 400 open recommendations that the FAA has not acted on. Comment?

Mr. SABATINI. I will have to review that data, Mr. Chairman.

Senator ROCKEFELLER. Yes, I think you will.

Second, you sort of credited yourself with getting more money into the FAA system. You did not do that. We did that. The President never requested it. The Congress injected that money. Keep that clear in your mind.

Mr. SABATINI. I believe I acknowledged that.

Senator ROCKEFELLER. No. I do not think you did. Well, so be it. It is for the record. We did that.

That is the whole pattern—I could ask you how many times has Mary Peters gone to the President of the United States to protest certain things. Why was there not any Presidential interest in all of this that is going on, except as exercised through the FAA, which some of us seem to be a little bit skeptical about?

Third, this will seem like a self-serving point, and I therefore apologize. I believe that in big organizations—I believe this violently in the Department of Defense, and I am beginning to believe it in the FAA—that sometimes you have got to fire people to make a point. And I am going to give you two examples.

I was a Governor for 8 years in West Virginia and I had a very good head of a department. He was doing a wonderful job. And he did something which was probably not criminal, but he went out hunting in Wyoming with a group of people who represented

groups over which he had oversight jurisdiction and control. I fired him. I fired him in Wyoming. And nothing like that ever happened again.

Second, I was president of a college for almost 4 years, a really good college. It was a private college in West Virginia. But everybody was afraid to dismiss students that were nonperforming or had sort of racial preconceptions that were not helpful to the nature of the institution. And I very quietly over a period of time did homework with my team, and 1 day we dismissed 60 students, which was I think about 5 percent of the student body. The next day everybody was at their work stations teaching math, learning English, learning everything else at 200 percent of the intensity of the day before. They were relieved because somebody had put down a marker. I just want to leave that thought.

I yield now to, well, the chairman, Senator Klobuchar.

Senator KLOBUCHAR [presiding]. Senator McCaskill?

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

Senator MCCASKILL. I have two areas I want to cover. One is to follow up on what the Chairman talked about in terms of accountability, and the second is foreign repair stations.

The head of the Office of Special Counsel, who represents Federal whistleblowers, has given a very damning indictment of the FAA in terms of accountability. And I want to read for the record what the Office of Special Counsel testified to in a hearing in the House. "FAA lied"—no sugar coating here. "FAA lied to OSC and the Inspector General in the 2004–2005 investigation, and during this new one, they disregard the seriousness of the charges that operational error numbers were lowered by covering them up and blaming the pilots instead. The more things change, the more they stay the same in FAA."

Also, the Special Counsel said, "The culture of complacence and coverup goes very high in management circles." A serious discipline and shakeup of the FAA, in order to send a proper message inside what appears to be a very insular organization.

Now, I have got to tell you that is an amazing testimony. That is amazing testimony, that the Office of Special Counsel has said that FAA lied. And what I would like someone to say to me today is that someone is going to be fired for lying to the OSC and to the Inspector General. Will anyone be fired for lying, or do you disagree that someone lied?

Mr. SABATINI. Well, the Special Counsel has not brought any information to me personally about anyone lying. Certainly if someone lied, we would take the appropriate action.

Senator MCCASKILL. Well, this testimony was given on April 3rd. Now if I were in your position, Mr. Sabatini, and somebody with this job came in front of the House and said this about my agency, I would be asking them who lied. Have you asked them who lied?

Mr. SCOVEL. Senator, if I may shed some light on that question. The head of Special Counsel, when he was testifying, was referring first to an investigation conducted by my office. We were referred to the case by the Secretary on a referral to her from the Office

of Special Counsel. It had to do with operational errors at the Dallas-Fort Worth TRACON.

Subsequent to that, there has been a renewal of problems within the same facility. We are now completing our investigation on that. I do not know that Mr. Sabatini has knowledge of the findings of our current investigation, and because it is ongoing I am unable at this point, to comment on the record.

Senator MCCASKILL. I think you understand my concern, Mr. Scovel, that we would have someone in this position say to Congress that someone is lying in the investigation and immediately—I mean, this is pretty—that does not happen very often.

Mr. SCOVEL. It certainly does not.

Senator MCCASKILL. And for someone to make that statement, especially someone in this job, I think is something that everyone should react to. You talk about the red lights flashing and the sirens at full bore, it seems to me this is the moment that there needs to be a sense of urgency about accountability. And I wanted to begin with that.

Let me ask you, Mr. Sabatini, can someone explain to me why certification of a repair facility is a valuable thing?

Mr. SABATINI. Well, for many reasons. One, it requires that for people who apply for a repair station authorization, certification demonstrates that they have the competence and the qualifications, the facilities, the housing, et cetera to perform the work that they are going to perform.

Senator MCCASKILL. And I am assuming the government incurs expenses in terms of the certification process and the oversight of the certification process.

Mr. SABATINI. Yes, we do.

Senator MCCASKILL. But yet, we do not require people to use FAA certified facilities.

Mr. SABATINI. Well, an air carrier is going to either perform the work itself or it can require or engage with another facility like a repair station that is authorized to perform that work.

Senator MCCASKILL. But not certified.

Mr. SABATINI. An air carrier must deal with a certificated entity to have maintenance performed on its aircraft.

Senator MCCASKILL. Well, you are aware of all the reports that have been done about foreign repair stations and the lack of certification thereof and the problems associated with those foreign repair stations, I assume.

Mr. SABATINI. Well, yes, I am.

Senator MCCASKILL. So what I am trying to get at is if certification is important and if the American taxpayers are spending money to get facilities certified, what is the point if you do not need to? I mean, why do it? Why do we not just do away with certification of repair facilities unless we are going to require the same standards of all the repair facilities?

Mr. SABATINI. Well, certification is required for many reasons, one of which I stated. If an air carrier is traveling abroad—and certainly aircraft are global by their very nature—we have a requirement that any air carrier can only have repairs done or maintenance performed on its aircraft by an authorized repair station.

If I may, what I think you are addressing is downstream, can a repair station contract out with an entity that is not necessarily certified by the FAA? And the answer to that is yes. However, that repair station or that air carrier that might have work outsourced to one of those entities, must assure that that work is done under the quality control system of the repair station or the air carrier. And we hold the repair station and the air carrier accountable to that.

Senator MCCASKILL. Well, my understanding is—and correct me if I am wrong—that most major airlines in this country are having work done at foreign repair stations and that there is no requirement that those foreign repair stations be certified and that reports have indicated that although one person is required to be on site and know what needs to be done, a lot of the checking is being done by phone, that there is never an FAA inspector on site.

I am just trying to figure out how many people are lined up wanting to be certified that we have not certified. Are there a number of foreign repair stations that have requested certification that we have not certified?

Mr. SABATINI. Yes, there are. I do not have that number readily available, but I can tell you that there are applicants at different locations where we have FAA inspectors in-country in foreign locations that have a pending list.

Senator MCCASKILL. OK. This is the second hearing where I have requested how many pending requests for certification does the FAA currently have, and your agency got this question yesterday. Your agency got it at a previous hearing.

Should it worry me that nobody can give me the number of facilities that want to be certified that are waiting to be certified and cannot be certified? Should that concern me that nobody can come up with that number?

Mr. SABATINI. Well, I can get you that number, Senator.

Senator MCCASKILL. OK. I hope you can. I am a little skeptical at this point because I have been talking about this for a while now, and I have not yet got any sense of urgency from the FAA that you are concerned.

As you know, they found a member of Al Qaeda working at a repair facility in Singapore. As you know, they had access issues that were cited both by IG's and GAO about access to facilities in terms of gaps in fencing, a lack of background checks. Then you have got the whole additional problem that the outsourcing of labor to foreign repair stations, those that are certified—the costs of that are being borne by the taxpayer.

So I do not begrudge companies for a lower labor cost by going outside of the country, but I do begrudge taxpayers underwriting it. And I have asked for those numbers repeatedly. How much are taxpayers paying to help these companies have their airplanes worked on in other countries? If you can assist me in getting that information, I would be greatly appreciative.

Mr. SABATINI. Well, Senator, I am actively engaged in addressing that question you raised last time, and I can tell you that we are actively reviewing how we assess foreign applicants for certification. So I will be able to give you that information—just give me

a little bit more time, but I can assure you, Senator, we are actively engaged in looking at that.

Senator MCCASKILL. I think we need to keep a central list, do you not?

Mr. SABATINI. A pending list?

Senator MCCASKILL. Yes. I mean, should you not be able to say how many people want to be certified that we have not certified? This is not a hard question.

Mr. SABATINI. Well, you know, I will go back about 10 years when we started into basically certifying foreign repair stations. We were told by the Congress not to certify any more repair stations than we can properly surveil.

So an example from the pending list is an applicant who is not a threat to safety. It is an applicant who is waiting to be certified as a repair station. So the pending list does exist. I do not believe we could ever eliminate that pending list. We simply do not have the numbers of people——

Senator MCCASKILL. That is what I thought. So it is a matter of resources. It is a matter that we do not have enough inspectors to actually send to all these certified facilities.

Mr. SABATINI.—well, we have them today in Singapore, in Frankfurt, in London, and we have a small group in Beijing, and we are adding people there. We have added 10 people in Frankfurt and 6 people in Singapore and 2 in Beijing. And I would tell you, you could give me a 1,000 people. There will always be a pending list, and we will not allow—an inspector to be responsible for any particular group or number of certificates than they can properly and adequately surveil.

Senator MCCASKILL. I think that is a great position to take, and I appreciate it. I think it is the right position. But I am very confused that no harm, no foul if you use a non-certified facility. So it is like we are saying we do not have enough people to really look at all these facilities, but that is OK. You can go to one that is not certified. It seems to me that is kind of counterproductive.

Mr. SABATINI. Well, for clarity, those people who are on the pending list are not performing any repair station activity. That would be contrary to our rules, and we would not permit that. For example, a repair station or an air carrier can go to an entity that specializes in plating of blades or welding, which does not necessarily require FAA certification. But that air carrier or that repair station is responsible for assuring that the work that is done is done in accordance with the standard for which we apply and hold that entity, the air carrier or the repair station, responsible and accountable for. They bear that responsibility.

Senator MCCASKILL. I think that is great for the subcontracting specialists, but we have facilities that are doing all kinds of repairs that are not certified where we are not certain of the background checks, the access issues, and all of those. And those are the ones I am concerned about, Mr. Sabatini.

Mr. SABATINI. Well, I can tell you that we have put in place a requirement that the air carrier make available to an FAA inspector, upon request, those entities that they are doing business with, so that we know who they are and can determine whether they are performing the work in accordance with that carrier's procedures.

And with regard to repair stations, any work that they extend to others outside the repair station, they must demonstrate to us through the repair station that we have access to those uncertificated entities.

Senator MCCASKILL. And I appreciate that. I think you realize this is a problem and I think you are trying to deal with it. I think that the cow got out of the barn on foreign repair, and I think we have got some work to do in terms of credibility at this point. And I appreciate whatever information you can get to me as quickly as possible so we can begin to look at whether or not there is, indeed, a problem here that the American flying public needs to be concerned about.

Mr. SABATINI. We will do that, Senator.

Senator MCCASKILL. Thank you very much.

Senator KLOBUCHAR. Thank you, Senator McCaskill.

Mr. Sabatini, when I ended my last questions, we were talking about the cozy relationship. In my time here now—I have been in the Senate for a year and a half, I have noticed that a lot of the issues that can arise—and you cannot always tag it on them—are due to regulators who have other interests and then they go and they work at the place that they were supposed to regulate. We have some issues with the Surface Transportation Board, the number of people working at railroads. We saw it in the Consumer Product Safety Commission in terms of a different problem with industry paying for trips while the regulation of these industries lagged.

I just wondered if you had statistics and data on the number or percentage of FDA inspectors who later take jobs with the airlines.

Mr. SABATINI. FDA?

Senator KLOBUCHAR. FAA. I misspoke. If you have numbers or statistics on the number of FAA inspectors who then go on to work at the airlines.

Mr. SABATINI. Not readily at hand, but I will certainly get that information to——

Senator KLOBUCHAR. If you could get those for me for, say, the last 10 years, that would be very helpful.

Mr. SABATINI.—I will, assuming those records exist. I will do my very best.

[The information referred to follows:]

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
*Washington, DC, July 11, 2008*

Hon. AMY KLOBUCHAR,
Member,
Commerce, Science, and Transportation Committee,
U.S. Senate,
Washington, DC.

Dear Senator Klobuchar:

At a hearing held on April 10, you asked if the Federal Aviation Administration (FAA) keeps records of whether aviation safety inspectors go to work for airlines after leaving the FAA. At the time of the hearing, I did not know the answer to your question.

I want to confirm that the FAA does not have records on where aviation safety inspectors, or any former employees, are employed after they leave the FAA. For those employees who have post-employment restrictions, they are informed of those restrictions before they leave the FAA and are expected to comply.

At this time, aviation safety inspectors do not have any post-employment restrictions. We have initiated a rulemaking project to propose that inspectors be prohibited from working with the FAA on behalf of an airline for a period of 2 years after they leave the FAA. This proposal would permit inspectors to be employed by an airline, but would not allow them to represent the airline. to the FAA for 2 years.

Sincerely,

NICHOLAS A. SABATINI,
*Associate Administrator for Aviation Safety.*

Senator KLOBUCHAR. Mr. Chealander, you have been nicely quiet. I thought maybe you would like a few questions over there. I was thinking of what you had said when you cited some of these past disasters or where things went wrong where it showed that there was a record of a lack of inspections. Was that right?

Mr. CHEALANDER. Yes, that is correct. We have been looking at maintenance oversight or oversight by the FAA for 25 years and making recommendations there.

Senator KLOBUCHAR. Yes, and a lot of it is based on lack of inspections, that if the inspections had occurred——

Mr. CHEALANDER. Correct.

Senator KLOBUCHAR.—and as I was sitting here listening to all this, I was thinking of my former life when I was a prosecutor, the murder rate would be low and everyone would be celebrating this great record, but then you would always see signs that problems were ahead when you saw an increase in drug dealing or an increase in property crimes. And then, sure enough, you would see the murder rate creep up shortly after that.

As you listened to everything that the other witnesses have talked about in terms of these problems and Mr. Scovel's recommendations, could you talk about your reaction to all of this and if we just rest on our laurels and say, hey, we have not had a crash for 2 years? Or if you see the fact that we now have thousands of passengers that are grounded at these airports, the flights were not inspected, and you have pieces of airplanes falling off, and near collisions on runways, if that leads for you to have more concerns about what could ensue.

Mr. CHEALANDER. I will give it a shot. There are a lot of issues involved with what you just said.

We have a different perspective at the NTSB than the IG has when they do audits and investigations from their perspective. We are an after-the-fact agency. We come in after the disaster happens. We investigate the accident. We determine the findings, conclusions, probable cause, and then make recommendations.

Over the last 25 years, as I alluded to in my oral testimony, we have investigated accidents and determined that oversight, whether it be operational or maintenance oversight, has been an issue. And we have cited the FAA in that regard in a lot of our recommendations as well.

As a matter of fact, we did a data search for this testimony, and in the written testimony that we gave you, you will see a table [not printed] in there that discusses that for the last 25 years gives you some numbers of how many times that has appeared in either our findings and conclusions, probable cause, or recommendations.

As I said in my oral remarks, we have made recommendations. Over the last 10 years, we have made 29 of those on maintenance oversight alone to the FAA. Of those 29 recommendations that we

have made, 75 percent of those are still open, still in the letter-writing campaign——

Senator KLOBUCHAR. Could you give me some examples of some of the ones you think are most important?

Mr. CHEALANDER.—well, if you will give me a second here, I can——

Senator KLOBUCHAR. And probably the ones that are most pertinent to what we have been talking about today.

Mr. CHEALANDER.—I can cite right now for you five aircraft accidents that have recommendations that have come from them in the last 10 years of these 29 that I am talking about. And the most recent for sure, but one that is really a characteristic example of what we are talking about was the Chalk's accident that I alluded to in my oral remarks. That was a Grumman Mallard airplane down in Miami where a wing came off and 18 passengers were killed and 2 crew members. So 20 people were killed in this accident when the wing came off and it fell on the beach. You may recall the videos of that accident.

In that accident, we found that maintenance was sorely lacking at the airline in question, but moreover, maintenance oversight of that airline was lacking.

Again, we look at it in a different perspective than the IG does. We look at it after the fact. We look at it and see that possibly proper oversight of the maintenance of that airline would have prevented this accident from happening. They would have found the corrosion that was in these wings and the wing may not have come off. So that is where we lead in our investigations, our recommendations.

There are other examples.

Senator KLOBUCHAR. So the implication here is that you made that recommendation and it was not taken.

Mr. CHEALANDER. Well, that is still ongoing. That one is still open because it is a recent one, and we are still in the campaign of writing back and forth with the FAA to determine how we are going to handle this recommendation. The way we do that, we write them a letter and tell them these are the recommendations we are making based on this accident, and they then write us back and tell us how they are going to implement our recommendation. So that stays open until we get satisfactory conclusion to that recommendation.

And there are several others I can talk about. But one I also talked about in my testimony was the Alaska accident, Flight 261, off the coast of California where the jackscrew in the back that Senator Stevens talked about was lacking of maintenance and oversight by the FAA that would have caught that. So a lot of procedures have come out subsequent to that, but 88 people had to die so that we could make that recommendation.

So that is where we come from as an agency, the NTSB, as opposed to where the IG comes from. And that is why I say we have 29 recommendations in the last 10 years on maintenance oversight, and 75 percent of those are still open in one way or another.

Senator KLOBUCHAR. Why is that, Mr. Sabatini, that 75 percent of them have not been responded to?

Mr. SABATINI. Well, we take the recommendations very seriously, and we evaluate them. As Mr. Chealander has said, on this most recent one, the Chalk, we are in the process of addressing what they have recommended and what we think is a proper solution to that.

Senator KLOBUCHAR. Well, my problem with the adverb "seriously" is that he said that 75 percent of them have not been implemented. So it does not really seem like they are taken seriously. If they were taken seriously, maybe 70 percent of them would have been implemented.

Mr. SCOVEL. Senator, can I interject briefly? Seventy-five percent of the NTSB recommendations remain open. That does not mean they have not been implemented. That means they are still open and awaiting a satisfactory or unsatisfactory conclusion.

Senator KLOBUCHAR. Do you think that they need to move more quickly?

Mr. SCOVEL. In some cases, yes.

Senator KLOBUCHAR. Is there a specific case that is your worst example?

Mr. SCOVEL. We can get you that data. There are reams of letter-writing campaigns that have gone on. I have got, as a matter of fact, our recommendations expert sitting right behind me, and we can get that answer for you and get it pretty quickly, if you like.

Senator KLOBUCHAR. Thank you.

Mr. Brantley, you indicated maybe in your prepared remarks that inspectors—spend more than 70 percent of their time at their desks. This, of course, means that for more than two-thirds of their week, these FAA inspectors are not in the field performing actual hands-on inspection. What do you think is the right mix of work, and are we operating under the right mix today?

Mr. BRANTLEY. Well, I think the right mix may very well differ from case to case. It depends on the type of oversight they do and the particular job. But I think it has to be more than 30 percent of their time in the field.

I think the inspectors are very experienced. They are very knowledgeable. And I think there needs to be a lot more trust in not just their instincts but their experience and allow them to determine how often they need to go out.

I think systemically it needs to be a greater part of the agency's oversight program. They need to emphasize the hands-on checking.

One of the things that I am very concerned about is I hear a lot that the airlines or a repair facility are responsible for ensuring compliance, and that is true. But in the end, they seem to be accountable for it, and the FAA is not. I think the FAA is not accountable for tracking compliance. They are accountable for ensuring it. And without getting out and looking at things, kicking tires—I do not like the phrase, but I will use it because it is easy and everyone understands it. They need to be able to get out and kick the tires.

Senator KLOBUCHAR. Well, also we talked earlier about this gaming the system, whether or not we have the facts to support this, but there is some thought that what sometimes goes on is people are told that they are going to show up and inspect and things like that. It would seem to me if you had a higher percentage, even a

slightly higher percentage, out in the field, you could do more surprise inspections.

Mr. BRANTLEY. Yes, ma'am, absolutely. And I think unannounced inspections are one of the most important tools that an inspector has to ensure compliance. But even that is very much frowned upon because if they show up unannounced, an airline can—and not all do all the time, but the airline or repair facility can complain and say they showed up without notice. They are asking people questions. It is slowing us down. It is costing us money. And they will be told not to do it.

We have an example where in Hawaii, Hawaiian Airlines had complained to the local FAA management, and they instructed their inspectors to no longer do a ramp inspection unless the turnaround time was at least 90 minutes or more because they did not want to impact their operations.

Senator KLOBUCHAR. Now, Mr. Sabatini, is this consistent with what the policy should be of the FAA inspectors?

Mr. SABATINI. Senator, if you would just bear with me for just a few minutes, I would like to put this in perspective.

Senator KLOBUCHAR. Sure. You and I are the only things that come between everyone's lunch. So that is OK.

Mr. SABATINI. I apologize for a late lunch, but I think this is critically important for everyone to understand.

Senator KLOBUCHAR. That is why I am asking the questions. I mean, I think earlier you talked about how it was important that we not have all these planned inspections the day before. And then Mr. Brantley just gave me some actual examples of where airlines have pushed back and said, "oh, you have got to give us enough notice."

Mr. SABATINI. Well, I would suggest that if Mr. Brantley were to bring forward the actual evidence, the objective evidence concerning what he just stated, I think the facts would prove to be a little bit different. But let us put that aside.

What I would like to share with you—I am not a theorist. I am an actual practitioner of this business. I started as an FAA inspector in Charleston, West Virginia. And back then, I was left to my own devices to determine—and I was a principal inspector—I was left to my own devices to decide how I would inspect that carrier. I would also say that during that time, there were 110 field offices, and anyone applying for an air carrier certificate could be certificated in 110 different ways, all in accordance with the rules, but the degree of the depth of what was required to meet the regulation had variation to it.

We now have an ATOS system. Thank goodness for that. It is far more robust than we ever had. It has produced for us what we now know to be a very safe system. And I will say again I do not rest on that laurel.

But what is important to know and is clearly stated in the guidance—and it is open to anyone who wishes to know about it to read it—it clearly says that an FAA inspector in the conduct of—let us just take what just happened: Airworthiness Directives. In the conduct of that oversight, that assessment of the performance of the carrier, that inspector can look at the airplane as many times as

they want. There is no limitation. There is no requirement to be at your desk 70 percent.

And let me again draw a comparison. When I was an inspector, I went out into the field and it was random. Today what we are doing is collecting data so that before you go out to conduct an inspection, you need to be well informed. You need to download the information that pertains to your carrier so that you know exactly what it is that you will be looking for. And while you are out there, let us take an evening surveillance of maintenance. When you are conducting maintenance, no one says you cannot look someplace else. You have a duty and obligation to report everything that you see, and inspectors are free to do that. Again, they can touch as many airplanes as they like within the construct of the performance assessment of whatever it is that has been determined to be an area to be examined.

Senator KLOBUCHAR. Well, it is just this really concerns me, though, about the surprise visits. I think about like if I know my mother-in-law is coming over with 4 hours' notice, my house is cleaner than if she just shows up. So what Mr. Brantley has been pointing out here is that when you have advance notice, it is a lot different situation than if you just randomly show up.

Would you be troubled if you found out that what Mr. Brantley was saying was true, that there was what Mr. Scovel called an overly collaborative relationship to the point where there was much advance notice of when these inspectors would show up?

Mr. SABATINI. There is no requirement for advance notice.

Senator KLOBUCHAR. I just wondered if it would—I am not saying there is, but it sounds like it is possible that it has been going on. So does it trouble you if it has been going on? That is my question.

Mr. SABATINI. Not necessarily because what that would imply is that people on an ongoing basis are in noncompliance and because the FAA inspector shows up, suddenly they are going to be in compliance. This is a very complex business. You cannot fix something in just a few hours because you heard an FAA inspector is coming. It is clearly obvious. We have very experienced safety professionals, our inspectors. They can tell the difference whether someone is hiding something or whether it is as a matter of routine and is embedded in the system. And our processes today clearly identify whether you are faking it or whether it is ongoing on a regularized basis.

Senator KLOBUCHAR. Mr. Scovel, do you think that is true?

Mr. SCOVEL. Mr. Sabatini talked about faking it or hiding it. I think in one of your earlier questions, you made the point that this is really not the issue. It is whether the carrier is going to use the opportunity to voluntarily self-disclose and perhaps avoid a penalty that FAA might levy had they——

Senator KLOBUCHAR. Because of that advance notice.

Mr. SCOVEL.—perhaps. Right.

Let me make one more point. We are talking about requests by carriers back to FAA for advance notice. That is certainly troubling, but what is even more troubling to me is what we saw happen in the Southwest and Northwest cases, both of which I referred to in my testimony. In these cases, a carrier either used subterfuge, made an anonymous complaint to FAA, or simply pulled creden-

tials from an inspector so that he was unable to access maintenance facilities. In effect, carriers were deciding which inspector was going to get to do their inspections. That is very troubling.

In his House testimony last week the whistleblowers called that "cherry picking." I called it putting an inspector on the bench with FAA's complicity. That is troubling. It is a dismissive attitude on the part of the carriers, and, as I mentioned last week, it signals a regulator that no longer commands the respect of the regulated entity. That should be very troubling to all of us.

Senator KLOBUCHAR. Mr. Sabatini, are you troubled by that?

Mr. SABATINI. Absolutely. I am outraged.

Senator KLOBUCHAR. What are you going to do about it?

Mr. SABATINI. Well, I have taken steps already with the individuals concerned, and I am putting steps in place to make sure that does not happen again.

Again, we are a learning organization. We are in that level of that chart where we keep identifying remaining risks. Those are risks, and we are actively and proactively addressing those.

Senator KLOBUCHAR. Mr. Barimo, as we have this hearing and we are all sitting here comfortably asking questions, we have got thousands of airline passengers that are stranded because routine inspections were not taking place, and instead it was just suddenly the flights were stopped so that things could be looked at. I do not think anyone questions that we should have safety inspections, but clearly members of this committee question know how this was handled.

What is going on for these passengers right now? Are they going to get redemption coupons? Are they going to get expenses paid? What is happening?

Mr. BARIMO. I will address that as best I can, and then I would like to add a comment just to what we talked about earlier.

Each carrier will determine what is appropriate from a customer service standpoint. I am not up to speed on the specifics of how each carrier in this particular instance is going to address taking care of their customers. I am certain that they will. Some have already announced plans on how they will address their customer issues.

So just if I could take a step back, let me just point out that airlines do not rely on the FAA or the ATOS system to keep them safe. Airlines are not safe because they are trying to avoid a fine, and they are not cleaning house because they hear that tomorrow the FAA is coming over. Safety is good business for airlines. It is essential for airlines. It is taken very seriously. And we recognize that. As we talked about earlier, the goal is 100 percent and we will not stop until we get there.

But let us keep in mind that this is a collaborative effort, and the last thing we want to do is rebuild the wall that existed a couple of decades ago between airlines and the regulator. What scares me is that we return to an era where we had accident rates that at today's volumes would generate a fatal accident every month. I do not want to go there. I know that there are changes that need to be made to the tools that we are using today and we will absolutely support those changes.

Senator KLOBUCHAR. Well, thank you, Mr. Barimo, for pointing that out.

I will say this. I believe that things have tilted too far in the other direction. I believe you that there have been improvements made to safety. Our State of Minnesota has Northwest Airlines, and we are proud of the work that they do. And they have not grounded any flights yet as of this moment. That is a knock on wood for the record.

But I will say this. Just as we saw with the tainted dog food or the toys from China or a bridge that falls down in the middle of the Mississippi River, perhaps we have gone too far in terms of the collaboration being on one side, and that is the side of industry. And I agree there should be collaboration. I think that is the way to go, but the whole system was set up so that there is backup enforcement.

I can tell you that Target and Toy-R-Us did not want these toys to come over. They have a market reason to want to do well. But they most likely, like the rest of us, thought that there were going to be inspectors that were looking at things, just like I would assume the airline CEOs believe that there are going to be competent inspectors that really balance the system that are going to call their employees that they cannot watch every day just to make sure things are going well.

And I think that is what seems to have broken down here, not that we want to throw out the whole system, but that we want to talk intelligently about what we need to do with some of the recommendations that Mr. Scovel has made to try to move in the right direction.

And then I just have one more question related to the air traffic controllers and whether some of the things that we have been talking about today with the FAA inspectors are some of the same issues where they have voiced their concerns, whether they were whistleblower concerns or whatever, that some of their concerns are not moved up the chain, so to say, so that people at the top can find out about things, which is all we are talking about.

Mr. Krakowski, do you want to comment on that?

Mr. KRAKOWSKI. Thank you, Senator. I think this has been a very important couple of weeks in that effort with air traffic. As you may know, I come from industry as a chief safety officer of one of the largest airlines during a time where the airline had its worst time in 5 years in the company's history. Two airplanes lost on 9/11, bankruptcy, a lot of churn in the organization.

There are some techniques there that we used that were very effective in actually improving our safety. One of those techniques, the Aviation Safety Action Program, or ASAP, for air traffic was signed by Acting Administrator Sturgell and Pat Forrey from NATCA 2 weeks ago, and we are going to begin rolling this program out. This is going to give us some insight into the human factors and the real issues, whether fatigue is real or not, what should we do about it, what are the human factors issues around incidents, operational errors, runway incursions.

I believe in my heart that my former company would not have achieved the safety record it had without an effective program in

this area, and it is my fervent passion to make this program successful.

Senator KLOBUCHAR. Very good.

Anyone else like to comment on this?

[No response.]

Senator KLOBUCHAR. Well, thank you very much. I will say that I think the general consensus up here, whether it is Democrats or Republicans, is that the FAA needs to do more than just trust these airlines, that we have to have a collaborative effort, but they need to be vigilant in ensuring that the airlines comply with the regulations and, when necessary, take the enforcement action. We have some good ideas on the table, and I think we need to go beyond the letter writing back and forth and get into action. Thank you very much.

The hearing is adjourned.

[Whereupon, at 1:24 p.m., the hearing was adjourned.]

# A P P E N D I X

PREPARED STATEMENT OF KAREN E. CASANOVAS, EXECUTIVE DIRECTOR, ALASKA AIR CARRIERS ASSOCIATION

To the Honorable Chairman Inouye and Vice Chairman Stevens and members of the Committee:

My name is Karen Casanovas and I am the Executive Director for the Alaska Air Carriers Association. Our Association (AACA) was founded in 1966 and represents over 160 commercial airlines and aviation businesses throughout Alaska and the world. Our organization's mission is to provide educational training, advocate for the interests of aviation in the public process, and act as a facilitator of aviation-related information. Additionally, we provide resources for safety, security, air-space, insurance, or weather-related issues, and act as a conduit between government and industry leaders. It is an honor to comment on crucial safety issues. I'll address the challenges facing commercial air carriers in our state, along with the successes of Alaskan aviation safety.

Since air travel is a way of life for Alaskans, we are dependent on aviation for activities that are normally accomplished by using the existing road system in the Lower 48 states. As a consequence, per capita there are 6 times the number of pilots, 14 times the number of aircraft, and 76 times as many commuter airline flights. As a pilot, Senator Stevens, you are aware of the wide variety of services provided by the aviation industry. Because commuter airlines and air taxi operations need to provide highly reliable service for rural area medevac and economic purposes (oil, fishing and tourism) in an environment of unpredictable weather and high terrain, they need an air traffic system that enables them to communicate, navigate and manage operational control of their aircraft.

Alaska has been an ideal location to implement key new communication, navigation, and surveillance technologies that improve safety. These new technologies have allowed pilots to more effectively handle navigation, terrain, traffic and weather hazards and enabled the Federal Aviation Administration (FAA) to provide more efficient and cost effective services.

The FAA Capstone Program was a technology-focused research and development (R&D) safety program in Alaska, which sought near-term safety and efficiency gains in aviation by accelerating implementation and use of modern technology. The Capstone Program linked multiple programs and initiatives under a common umbrella for planning, coordination, focus and direction. ADS–B was a major component of the Capstone Program and much success was achieved in the developmental phase of ADS–B technology. On September 9, 2005, the FAA selected ADS–B as the preferred alternative for meeting the future surveillance needs of the agency. ADS–B is a critical component for meeting the Next Generation Air Transportation System (NGATS) goals, now known as NextGen. In December 2006, the Capstone Program transitioned to the Surveillance and Broadcast Services (SBS) Program Office and assimilated into the National ADS–B Program.

The Surveillance and Broadcast Services Capstone Statewide Plan is a joint industry-FAA plan with a goal of equipping Alaskan-based aircraft and installing ground infrastructure such that 90 percent of Alaskan air operations would be covered by the FAA NextGen aviation technologies. Doing so will expand the Capstone Program's demonstrated 47 percent safety improvement record across Alaska. *FAA estimates a 33 percent reduction in fatal accidents statewide and $824 million in combined public benefits* from reduced aircraft accidents, enhanced rural area medical evacuation, and more effective accident search and rescue operations (over the next 27 years).

While the FAA will make an investment in this NextGen airspace system in Alaska, the funding will be limited or delayed unless Alaskan commercial operators and general aviation airplane owners equip approximately 4,000 aircraft. Currently, the increase in the FAA investment in Alaska is estimated to be $493 million, much of

which will be used for ground system installations over the next 5 years in accordance with the Statewide Plan.

This substantial investment by the FAA in Alaskan based aviation infrastructure is directly tied to equipage of Alaskan-based aircraft. *In other words, the Federal investment of nearly one-half billion dollars is contingent upon aircraft equipage.* While most commercial operators will equip their aircraft, currently, these avionics are not affordable for the private pilot and Alaska will not be part of any Federal mandate to equip. Without incentives, equipage may never happen or will be many years after the Lower 48 is enjoying NextGen aviation capabilities. Alaska desperately needs to be an accelerated part of the nationwide airspace modernization plan.

Recently, Alaska's 25th State Legislature *unanimously* approved a revolving loan program to provide assistance for avionics equipage. This low-interest loan program, if signed by Governor Palin, will be administered by the Department of Commerce, Community and Economic Development, Division of Investments. *With future additional funding from the private sector and/or the Federal Government,* this could result in *90 percent of all flight operations across the entire state of Alaska* enjoying safety and reliability capabilities proven by the Capstone R&D Program in southwestern and southeast Alaska.

I launched my career in this industry 33 years ago and can personally verify the widely diverse types of commercial operations in Alaska and the need for improving aviation access and economic viability of our rural communities. There are many different and unique aviation companies conducting business under Parts 91, 121 and 135 of the Federal Aviation Regulations (FARs). There are single engine airplanes up to turbo prop equipped aircraft, wide-bodied jets, rotorcraft and float plane operators. The Alaska Air Carriers Association is committed to assisting all of them in maintaining safer operations; that's why our Safety Committee initiated the idea of the Medallion Foundation, a voluntary program based on best practices that has changed the culture of aviation in Alaska.

The Medallion Five-Star Program established standards that exceed regulatory requirements for participating air carriers and pilots. Maintenance Resource Management and Safety Officer training are just a few of the valuable courses offered by the program managers. By providing system safety attributes and showing participants how to collect, analyze, and share data in the Air Transportation Oversight System (ATOS) program—trends can be spotted before accidents occur. Data analysis has revealed that Medallion participants have a significantly lower accident rate. The Medallion Foundation has partnered with the FAA on several initiatives that have measurably improved aviation safety in Alaska, which resulted in a 27-month period with no fatal air carrier accidents. Although fatalities for last year were not zero, the numbers are still considerably lower than pre-Medallion years.

Medallion's leadership and the FAA have worked together to develop a detailed roadmap, which has assisted air carriers in implementing system safety tools. Used by their principal inspectors to monitor processes, this integration has aided in assessing aviation risks, perform root cause analysis, and improve pilot training. By taking a business-like approach to Risk Management and Safety, the Medallion Foundation provides a framework and guidance for the development of a proactive corporate safety culture.

Furthermore, Medallion performs as an objective third party for administering an FAA-industry program that allows aviation employees to report safety issues without fear of punishment. This has allowed the FAA and industry management to solve safety or operational issues that would not have come to light had the employees not made the reports.

The Alaska Air Carriers Association encourages continued improvement of accident rates through programs such as the Medallion Foundation and the Surveillance and Broadcast Services Capstone Statewide Plan. We thank you, Senator Stevens, for your continued support of both programs, which have improved performance, safety and efficiency for air operations. This has allowed the delivery of goods and services to communities in a reliable manner through the use of technology *in concert with* a precise risk management philosophy.

We've made great strides in Alaskan aviation safety through Capstone, the Medallion Foundation, the Surveillance and Evaluation Program, (which uses principles of system safety to identify risk-based inspections of airlines) and through operational control audits. In order to continue improving aviation safety, however, we need monies directed toward a Safety Equipage Incentive Program (SEIP) for the Capstone Statewide Plan to step up aircraft avionics equipage statewide. Alaska urgently needs to be an accelerated part of the national airspace modernization plan. A State-Federal-Private investment through a public-private partnership will foster economic development and aid in equipping as many aircraft as possible with

navigational, communications, surveillance and weather information. Avionics in airplanes can save lives.

Thank you for the opportunity to comment today and do not hesitate to call on the Alaska Air Carriers Association as a resource for aviation issues in the future.

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RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. INOUYE TO NICHOLAS A. SABATINI

*Question 1.* Beyond the ATOS program, what are the other keys aspects of the FAA's activities for ensuring system safety?

Answer. FAA's approach to system safety is based on the statutory requirement of an air carrier to demonstrate that it can operate safely in order to hold an air operator certificate. This means that the systems an air carrier uses to conduct its business must be capable of managing the risks in the operating environment. This concept underpins FAA's safety regulations, which are risk controls that must be implemented by air carriers. FAA certification and surveillance are structured to determine compliance with safety regulations, thereby ensuring system safety. The following programs supplement certification and surveillance activities:

- Aviation Safety Action Program—identifies systemic problems and implements corrective actions.
- Flight Operations Quality Assurance—provides data to validate effectiveness of operational procedures and to identify hazardous operational trends requiring intervention.
- Advanced Qualification Program—enables air carriers to tailor pilot training to fit unique operating environments and the individual needs of pilots.
- Voluntary Disclosure Reporting Program—identifies inadvertent regulatory violations and implements comprehensive corrective measures.
- Safety Management System Pilot Project—assists air carriers and repair stations in implementing voluntary safety management systems.

*Question 2.* What were the results of the FAA's recent performance audits of air carriers' compliance with Airworthiness Directives?

Answer. The special-emphasis validation of FAA's Airworthiness Directives (AD) oversight, ordered on March 13, is to validate our system for overseeing air carrier AD management. The audit consists of two phases. In their aggregate, the two phases include a broad sample of the air carrier's program to comply with ADs. The results of the audit will allow us to determine whether or not each air carrier's program is in compliance with our rules and whether or not our system for determining compliance is adequate or needs adjustment. Results of Phase 1 validated both the airlines AD management system and FAA oversight of that system.

Phase 1 of the audit required a sample of 10 ADs for each of the air carriers' fleets, including AD–2002–07–08 (to find cracking of the lower skin at the lower row of fasteners in the lap joints of the fuselage, and repair of any cracking found) and AD–2004–18–06 (to find fatigue cracking of certain upper and lower skin panels of the fuselage, and follow-on and corrective actions) for the Boeing 737 aircraft, if applicable.

Our audit revealed a 99 percent compliance rate with the ADs audited. We have begun investigations into those airlines where there was a question as to AD compliance.

Phase 2 of the audit requires inspectors to sample additional ADs, to total 10 percent of the ADs applicable to the air carriers' fleets. Phase 2 will end June 30. As of May 28, 2008, FAA inspectors had reviewed operator management of 1,597 ADs, revealing a 98 percent compliance rate. Again, we will pursue investigations where AD compliance is questionable.

A copy of Notice N 8900.36, Special Emphasis Validation of Air Carrier Airworthiness Directives Oversight is attached.

*Question 3.* Is it accurate that compensation for supervisors and managers in the safety unit is based on performance measures that include on-time arrival and customer satisfaction?

Answer from Mr. Krakowski. Yes, they are included in the many metrics that we use to assess our performance. Our mission is to provide the safest, most efficient aerospace system in the world. In line with this mission, we have established both safety and efficiency metrics by which we are measured and compensated.

As a safety organization, our first priority is always safety, and we pride ourselves on our safety record. With more than 7,000 takeoffs and landings per hour, and more than 660 million passengers and 37 billion cargo revenue ton miles of freight

per year, the men and women of our organization safely guide roughly 50,000 aircraft through the National Airspace System every day.

*Question 4.* If so, are these performance measures consistent with the agency's top priority of safety?

Answer from Mr. Krakowski. Yes, they are consistent with our top priority of safety. The FAA's mission is to provide the safest and most efficient aerospace system in the world. The FAA's 5 year strategic plan (the Flight Plan) provides the foundation for achieving this mission based on four goal areas: Increased Safety, Greater Capacity, International Leadership, and Organizational Excellence. The FAA strives for excellence in each of its four performance measures as they are each a fundamental part of success.

Safety and capacity in particular are inextricably linked, and critical to performance management. As passengers continue to fly in ever-increasing numbers, and as more planes continue to fill the skies, performance measures are specifically designed and implemented to handle that growth safely and efficiently. These measures involve constantly increasing the level of safety by implementing new technology and procedures while simultaneously working to increase capacity, reduce airspace congestion and meet projected demand.

*Question 5.* Are on-time arrivals really an adequate basis on which to judge those charged with ensuring aviation safety?

Answer from Mr. Krakowski. The metric of on-time arrivals is but one of many measures in our performance management system.

Our safety professionals are charged with ensuring aviation safety as their highest priority. The FAA's mission is to provide the safest and most efficient aerospace system in the world. Through the Flight Plan, we focus on implementing measures that are designed to accommodate aviation growth both safely and efficiently. We have worked to increase the level of safety by:

- Reducing commercial air carrier fatalities.
- Reducing the number of fatal accidents in general aviation.
- Reducing the risk of runway incursion and collision risks.
- Ensuring the safety of commercial space launches.
- Enhancing the safety of FAA's air traffic systems.
- Implementing a Safety Management System (SMS) for the FAA.

*Question 6.* Does the FAA respond to all whistleblower complaints that are filed?

Answer. Yes, if FAA is notified of the complaint, it opens an investigation. Complaints may be brought to the attention of the FAA from the Office of the Special Counsel or by other government agencies. These agencies determine whether the complaint has merit and may conduct their own initial investigation before alerting the FAA. The Whistleblower Protection Program covers external complaints by employees of air carriers, contractors, and subcontractors. The Whistleblower Protection Act covers internal complaints by government employees, which are initially filed with the Office of Special Counsel.

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RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. INOUYE TO HANK KRAKOWSKI

*Question 1.* How does the FAA track and investigate runway incursions and operational errors?

Answer. Operational errors are investigated primarily by FAA management at the facility-level where the operational error occurred. The findings and corrective actions from these investigations are approved by regional and headquarters FAA safety personnel. All operational errors result in an in depth final report that includes causal factors and corrective action plans. These reports are retained in electronic databases that may be searched for trends and commonalities that may be indicators of areas for system-wide improvement.

*Question 2.* What is the FAA doing to reduce near misses?

Answer. Investigative reports of operational errors and pilot deviations provide data that may be mined for trends and commonalities in root causes to many of the reported losses of separation within the National Airspace System (NAS). FAA safety personnel implement procedural and technical improvements to the NAS to correct identified recurrent causes to separation losses. Recent improvements include a revision to a graphical depiction of an approach procedure to a major airport that was the source of multiple misunderstandings by pilots, and a current effort to re-

vise air traffic controller/pilot communication procedures for acknowledging altitude clearances.

*Question 3.* How will the implementation of NextGen improve safety in the National Airspace System?

Answer. NextGen provides several operational changes that will improve safety. Some of these directly target safety; others target improved situational awareness, which support safety, capacity, and efficiency. A prime example of the first is the traffic and flight information broadcast services, which are part of the Automatic Dependent Surveillance—Broadcast (ADS–B) program. This information service will provide pilots with real-time traffic display and weather information that will help pilots to avoid other aircraft and hazardous weather.

Examples of changes that support both safety and efficiency include: providing digital taxi-clearance for display in the flight deck, which will improve the efficiency of traffic on the surface while reducing pilot errors and deviations; data communications between controllers and pilots, which will greatly reducing readback/hearback errors while improving the efficiency of flight management; and integration of weather into controller tools supporting the strategic reroute of traffic, improving both efficiency and safety. Across the board, most improvements to flight efficiency or airport access will provide safety benefits through increased situational awareness and improved flight path management.

*Question 4.* Why does the current rulemaking process that will require the use of ADS–B technology exclude a requirement for the use of ADS–B "in" technology that would satisfy one of National Transportation Safety Board's top safety concerns?

Answer. Currently, the "ADS–B In" requirements are only partially defined. The FAA is working collaboratively with industry through the Aviation Rulemaking Committee (ARC) to decide the appropriate way to move forward with mandating "ADS–B In". Below is an outline of the options that were discussed:

1."ADS–B Out" compliance in 2020; "ADS–B In" effective in 20XX (to be articulated in the NPRM).

2."ADS–B Out" compliance in 2020; "ADS–B In" voluntary equipage (current FAA strategy).

3."ADS–B Out" and "ADS–B In" effective in 2010.

The ARC currently believes that option 3 is not possible because "ADS–B In" cannot be defined at this time. Therefore, at the present time, option 1 seems to be the best solution for one of the draft ARC recommendations (final recommendations will be submitted in August 2008). Also as a potential draft recommendation, the Committee would like the FAA to make a decision by 2012 as to how to proceed with "ADS–B In".

In summary, the FAA is working collaboratively with industry and various congressional committees to define and move forward with a potential "ADS–B In" mandate. Additionally, the FAA has already been investing in the development of standards to define the symbols for pilot's displays and is working to accelerate activities for surface alerting, which directly aligns with the NTSB recommendation for "ADS–B In".

**Notice: N 8900.36**

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
NATIONAL POLICY
*Effective Date: 03/13/08*
*Cancellation Date: 06/30/08*

*Subject: Special Emphasis Validation of Airworthiness Directives Oversight*

1. *Purpose of This Notice.* This notice directs an audit of Title 14 Code of Federal Regulations (14 CFR) Part 121 air carrier compliance with Airworthiness Directives (AD). The audit is necessary to validate our system for overseeing air carrier management of ADs.

2. *Audience.* The primary audience for this notice is Flight Standards District Office or certificate management office principal maintenance inspectors (PMI) and principal avionics inspectors (PAI) responsible for the approval/review and surveillance of air carrier AD management programs. The secondary audience includes Flight Standards branches and divisions in the regions and in headquarters.

3. *Where You Can Find This Notice.* Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at *http://*

*fsims.avs.faa.gov*. Operators and the public can find this notice at *http://fsims.faa.gov*.

4. *Background.* Current events involving one air carrier's noncompliance with ADs make it necessary to validate our system for overseeing air carrier management of this regulatory requirement.

a. In December 2007, all Federal Aviation Administration (FAA) Certificate Management Teams (CMTs) for 14 CFR Part 121 air carriers completed their transition to the Air Transportation Oversight System (ATOS)-a systems-based approach to ensuring air carrier compliance with regulations. ATOS requires systematic, risk-based surveillance of all of the processes that an air carrier uses to comply with regulations and deliver its product. ATOS structures air carrier processes into 97 elements. Inspectors use detailed data collection tools to assess the design and performance of the processes represented by each element. Inspectors use Safety Attribute Inspections (SAIs) to collect data for design assessments and Element Performance Inspections (EPIs) for performance assessments. The SAI and EPI for element 1.3.6, Airworthiness Directive Management, provide specific references to regulations and FAA policy and guidance for an air carrier's management of compliance with ADs.

b. Element 1.3.6 is extremely complex. Multiple ADs affect every aircraft used in air transportation. Literally inspecting each of these aircraft for compliance with all ADs affecting it far exceeds FAA resources. Therefore, ATOS emphasizes the importance of an air carrier's responsibility to have a process that effectively manages the regulatory requirement to comply with ADs.

c. ATOS requires a performance assessment of element 1.3.6 every 6 months. Many recently transitioned CMT have not yet completed an assessment of element 1.3.6. For this reason, as well as the highly publicized noncompliance of one air carrier, this special emphasis audit is necessary to validate our system of oversight.

5. *Action*. PMIs and PAIs shall determine their assigned air carriers' compliance with ADs by auditing a sample of ADs applicable to their air carriers' fleets, in conjunction with a retargeted performance assessment of element 1.3.6. The audit consists of two phases. Phase 1 of the audit shall sample 10 ADs for each of the air carriers' fleets, including AD–2002–07–08 and AD–2004–18–06 for the Boeing 737 aircraft, if applicable. Phase 2 of the audit shall sample additional ADs to total 10 percent of the ADs applicable to the air carriers' fleets.

a. PMIs and PAIs shall complete Phase 1 of the audit by March 28, 2008 and Phase 2 as soon as possible but no later than June 30, 2008.

b. The audit shall:

(1) Validate the air carrier's work instructions (*e.g.,* task cards, engineering authorizations, engineering orders, engineering change orders) to accomplish the AD by verifying that the instructions correctly describe the method of compliance contained within the AD and any referenced service information (*e.g.,* service bulletins, service letters) or any related alternative methods of compliance; and

(2) Validate the proper performance of the AD by reviewing the complete work instructions "package" on at least one aircraft.

c. For Phases 1 and 2, PMIs and PAIs shall audit a different aircraft, to the extent practicable, for each AD. This review should also ensure that entries into the AD tracking system were performed correctly. Give emphasis to sampling those ADs which involve required inspections of fuselage, empennage, and wing areas for cracking or similar issues.

d. To initiate Phase 1 of the audit, complete the following steps:

(1) Use ATOS automation to create a Constructed Dynamic Observation Report(s) (ConDOR) for airworthiness element 1.3.6.

(2) In the Local/Regional/National use field enter N8900.36.

(3) In the Requested Completion Date field enter March 28, 2008.

(4) Select EPI question 1.2.

(5) Determine and document data collection requirements in accordance with the instructions above.

(6) Document the results of each AD sampled in the comment field associated with the yes/no response.

e. To initiate Phase 2 of the audit, complete the following steps of the ATOS version 1.2 business process:

(1) Step 2.4, adjust the due date of the next performance assessment of element 1.3.6 to June 30, 2008.

(2) Step 2.6, determine data collection requirements in accordance with the instructions above.

(3) Step 2.7, document data collection requirements in accordance with the instructions above. Include instructions for specific ADs to be sampled and deadlines to save EPI activities to "final" in ATOS automation to comply with Phase 1 and 2 completion dates.

(4) Step 5.1, use the comment field to document the results of each AD sampled.

(5) Step 7.4 or 7.5, complete the performance assessment of element 1.3.6. Include ConDOR data collected in Phase 1.

f. If the audit affirms the performance of element 1.3.6, take no further action.

g. If you cannot affirm performance, follow the ATOS business process to initiate required action, including scheduling a design assessment if systemic issues exists.

h. If the audit finds evidence of noncompliance with ADs, initiate immediate corrective action.

6. *Tracking*.

a. Document the results of this audit of the air carrier's compliance with sampled ADs in the comment field of the EPI for element 1.3.6, Airworthiness Directive Management. Enter N8900.36 in the Local/Regional/National Use block of the activity screen.

b. If the air carrier did not comply with any of the sampled ADs, take immediate corrective action. Use the ATOS Risk Management Process (RMP), if appropriate.

7. *Disposition.* This is a special emphasis audit. Therefore, Flight Standards will not incorporate the information in this notice into FSIMS. Direct questions concerning this notice to the Certification and Surveillance Division, AFS–900, at (703) 661–0550.

Original signed by

JAMES J. BALLOUGH,
*Director,* Flight Standards Service.

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