

STATEMENT OF NICHOLAS A. SABATINI, ASSOCIATE ADMINISTRATOR FOR SAFETY, ACCOMPANIED BY HANK KRAKOWSKI, CHIEF OPERATING OFFICER, AIR TRAFFIC ORGANIZATION, FEDERAL AVIATION ADMINISTRATION BEFORE THE SENATE COMMERCE, SCIENCE, AND TRANSPORTATION COMMITTEE, SUBCOMMITTEE ON AVIATION OPERATIONS, SAFETY, AND SECURITY, ON AVIATION SAFETY ISSUES, April 10, 2008.

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 five years, on-board 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 overflowed 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 1451 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 organization 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 one 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 managers 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.