

**STATEMENT OF JOHN O'BRIEN, MEMBER OF THE EXECUTIVE
COMMITTEE,**

FLIGHT SAFETY FOUNDATION

**BEFORE THE COMMITTEE ON COMMERCE, SCIENCE AND
TRANSPORTATION,**

SUBCOMMITTEE ON AVIATION OPERATIONS, SAFETY AND SECURITY

ON JUNE 10, 2009

Chairman Dorgan, Senator DeMint and Members of the Subcommittee:

Thank you for the opportunity to appear before this committee to discuss these recent important matters of aviation safety. We commend the Committee for focusing on these areas.

I'm here today representing the Flight Safety Foundation, where I serve on its Board of Governors and Executive Committee. I also speak to you as a pilot who served for 22 years as the Director of Air Safety and Engineering for the Air Line Pilots Association—although I do not speak for ALPA today—but I've participated in more than 50 accident investigations, so these issues are near and dear to my heart.

The Flight Safety Foundation was founded 60 years ago to address the problem of how to solve safety issues. The founding members believed that the industry needed a neutral ground where competitors could work together to share information, ideas, and best practices for safety.

Today, our membership is over 1,100 and crosses into all segments of the aviation industry. We bring unions and management, regulators and operators, and rival manufacturers to the table and work together to find solutions. The Foundation occupies a unique position among the many organizations that strive to improve flight safety standards and practices throughout the world. Effectiveness in bridging cultural and political differences in the common cause of safety has earned the Foundation worldwide respect.

The air transport industry is a unique global enterprise — a single flight can cross the borders of several countries and several continents. The Foundation, with members from 142 nations around the globe, transcends local, regional, or national political interests. This global membership provides a broad range of aviation safety expertise, which

the Foundation can call upon to address a multitude of domestic and international matters of aviation safety.

As the Committee requested, our testimony is focused on specific measures that may be appropriate to improve pilot training, prevent errors resulting from crew fatigue, and address aircraft icing hazards. But I'd like to highlight for the Committee two areas that need particular attention and cut across all of these issues, which is the urgent need to adopt effective Safety Management Systems and better protect voluntarily supplied aviation safety data.

Aviation safety regime

All pilot training, crew fatigue, and anti-icing programs share the goal of improving safety. They all take advantage of the latest science and, to the best of their ability, make use of accident data and other data or information supplied by operators, manufacturers, and other members of the aviation community.

The benefits they achieve, however, make us realize that increased enforcement of outdated oversight standards and processes will not produce the results we desire. For example, I'll note in a minute the leadership of this Committee in forming a Blue Ribbon panel on pilot training, which came up with great recommended changes to pilot training methodologies and rules, most of which have not been accomplished today. We've seen fatigue studies and the de-icing studies that have produced, among other things, training modules for regional airlines that, if properly utilized, can produce effective results.

But there is a management approach that can reach far beyond these issues into the entire aviation safety regime. This management approach can be jointly employed by FAA and industry. The technique is a systems approach to aviation safety, a safety management system (SMS). If employed properly, SMS can produce significant safety improvements to the entire aviation system.

The oldest and most venerable aviation safety tool is accident investigation. These investigations identify causes that lead to findings and recommendations. Objective accident investigations will always be an essential part of the safety equation, but today they are only part of a more complex picture.

Aviation safety professionals now have much more to work with. They can adopt a more proactive safety management approach. They can identify risk and prioritize actions by collecting and analyzing data from

many different sources. They can use automated systems to collect and analyze flight data on a continuous basis. They can use reporting systems that allow pilots, mechanics, and others to report problems that would normally go unrecognized. Studies show that this type of data can give us hundreds of warnings before a crash occurs. By protecting this data and acting on it early, lives are saved.

Under provisions of the International Civil Aviation Organization (ICAO) that took effect in November 2006, the Organization's 189 Member States are required to ensure that aircraft and aerodrome operators, air traffic services providers, and maintenance organizations all implement safety management systems. Some States have mandated SMS in response to the ICAO recommendation. The FAA has provided guidance for those U.S. operators who wish to voluntarily implement SMS.

This new approach to safety saves lives by focusing attention on those items likely to cause the *next* crash. Accident investigations focus attention on what caused the *last* crash. In a safety management approach, information comes from monitoring data that is the product of reporting programs built on a foundation of trust and commitment.

Safety management is now the main driver of aviation safety. It functions quietly in the background outside the view of the public and the press, but if it were to be compromised, the consequences would be unbearable. We cannot go back to a time where the only safety information available was purchased at the cost of human life in an accident.

In this country, Flight Operational Quality Assurance (FOQA) and Corporate C-FOQA have been implemented by many operators. These programs depend on automated systems that produce information that is automatically collected and analyzed. To supplement this, we have seen the increased usage of voluntary reporting systems such as the Aviation Safety Action Program (ASAP). These programs would be an important part of any SMS program.

Protecting Safety Data

The key to success for all of these safety programs is the ability to collect good quality data and then analyze and apply it properly. The quality of the data gathered is only as good as the assurances for the operators and the operator's employees that data will be used to improve safety, not to facilitate prosecution or discipline. Therefore, whether it might be from the investigator on the scene of a crash or collected automatically by

FOQA or reported by a member of a flight or ground crew, one of the most important keys is to protect the data from disclosure.

In the wake of recent judicial decisions ordering disclosure of voluntarily supplied safety information, and the use of accident investigation reports in civil litigation and criminal prosecutions, the Flight Safety Foundation believes that there is a need for legislative protection against the release or use of voluntary self-disclosure reporting programs.

The Foundation has called for the creation of a legislative “qualified exception” from discovery of voluntary self-disclosure reporting programs, similar to that provided in US law against discovery and use of cockpit and surface vehicle recordings and transcripts.

Examples of such voluntary self-disclosure reporting programs include the Aviation Safety Action Program (ASAP), Flight Operations Quality Assurance (FOQA), and the Aviation Safety Information Analysis and Sharing (ASIAS) System, which airlines increasingly have embraced as a means to obtain predictive information, instead of relying on forensic evidence after a crash.

The Foundation recommended legislative protection of such information against disclosure in any judicial proceeding, except that a court may allow limited discovery if it decides the requesting party has demonstrated a particularized need for the information, and that the party would not receive a fair trial absent the information. In the event any discovery is permitted, the Foundation has urged that it only be made available to a party under protective order, and not generally made available to the public. We believe this legislative protection for safety data is absolutely necessary, and will save lives.

Pilot Training

The Foundation has a long standing record of initiating or participating in programs or projects on these issues, from both a domestic and global perspective.

In fact, one of the projects that the Foundation participated in had its beginning in hearings held by this Committee in August 1989. Senator Wendall Ford, the distinguished Chairman, held hearings on the supply and training of civilian and military pilots, at the urging of Senator McCain, a subcommittee member, who was concerned over the threat posed to the stability of the military pilot inventory caused by the growing demand for civilian pilots.

It became clear at the hearings that the civilian flight training institutions would not be able to meet the demand posed by the airlines for the quality and quantity of needed pilots. Because it was not possible to provide a complete picture of this issue within the scope of the hearings, you might recall a “sense of the Congress” statement in the National Defense Authorization Act of 1989 calling for the establishment of a commission to study the national shortage of aviators. In early 1991, the Department of Transportation established a Blue Ribbon Panel to accomplish the work of the commission recommended by this Senate Committee.

The work of the panel, which had been modified to include “an assessment of availability and quality for pilots and aviation maintenance technicians for the twenty-first century”, began in early 1992 and was completed in August 1993 with the publication of a report titled “Pilots and Aviation Maintenance Technicians for the Twenty-First Century – An Assessment of Availability and Quality.” This report contains recommendations regarding pilot and technician training. All of these recommendations are still pertinent today and could go a long way toward addressing the pilot training issues presently confronting us. However, only one of those recommendations has been successfully implemented. In summary, this report recommended that:

- That increased cooperation and an exchange of information between the air transport industry and pilot schools is necessary. Therefore, an aviation industry coalition designed to improve and promote partnerships between industry and training institutions should be established. Action: FAA
- Convene a pilot training advisory board consisting of air transportation industry and pilot training school representatives to provide a continuing forum to devise performance-based standards for entry-level air carrier and air taxi pilots. Training organizations could use these standards to prepare pilots for careers in transportation and the industry would benefit from enhanced training. Action: FAA
- Develop a detailed plan to establish a civilian pilot training program to be implemented at such time as private sector resources are unable to satisfy the demand for well-trained, highly qualified pilots. Action: DOT
- Examine ways in which pilot training methods can be improved and training costs can be reduced. Action: FAA

- Because a baccalaureate degree reflects an excellent preparation for the intellectual demands, knowledge and tasks required of a professional pilot, it should be considered a desirable factor during the screening and selection process for entry-level carrier pilots. Action: Employers and UAA
- Provide financial assistance to professional pilot candidates through loans and scholarships. Action: FAA
- Initiate legislative efforts to provide pilot training schools with priority notification and receipt of available surplus military and federal property. Action: DOT

While none of the above-mentioned recommendations have been implemented, I am pleased to note that the US Congress did implement recommendation 4: enacting legislation designed to provide relief from excessive product liability awards, which allows US manufacturers to resume production of training aircraft at a reasonable cost. This has made the US more competitive with foreign manufacturers who had been the primary source of new general aviation and training aircraft in the US.

There is a growing recognition within the U.S. aviation community that the FAA regulations covering the Air Transport Pilot rating must be reviewed and upgraded where appropriate. FAA should take a fresh approach to this issue beginning with a review of the Blue Ribbon Panel's recommendations followed by a comparison of U.S. requirements to those which exist in Europe for equivalent pilot ratings. Following this assessment changes should be made to the U.S. regulations so that a pilot trained under the new requirements would be capable of serving in an airline cockpit in a safe and efficient manner.

Fatigue

The Foundation has also participated in many projects associated with flight crew fatigue. Many of these activities involved participation in studies undertaken by the National Aeronautics and Space Administration (NASA). In 1980, in response to a congressional request, NASA, Ames Research Center created a Fatigue/Jet Lag Program to examine whether "there is a safety problem of uncertain magnitude, due to transmeridian flying and a potential problem due to fatigue in association with various factors found in air transportation operations." Since 1980, the Program has pursued the following three goals: (1) to determine the extent of fatigue, sleep loss, and circadian disruption in flight operations; (2) to determine the effects of these factors on flight crew performance and (3) to develop and evaluate countermeasures to

reduce the adverse effects of these factors and to maximize flight crew performance and alertness. It has been a priority since the Program's inception to return the information acquired through its extensive research to the operators—the pilots, air carriers, and others. In, 1991 the Program underwent a name change, becoming the NASA Ames Countermeasures Group, to highlight the increased focus on the development of fatigue countermeasures.

By 2000, this NASA Program produced enough scientific and operational data to produce an Education and Training Module on strategies for alertness management for members of the regional airlines operating community. The overall purpose of this Module was to promote aviation safety, performance, and productivity. It was intended to meet three specific objects: (1) to explain the current state of knowledge about the physiological mechanisms underlying fatigue; (2) to demonstrate how this knowledge can be applied to improve flight crew sleep, performance and alertness; and (3) to offer strategies for alertness management.

Since NASA published this training and education Module in 2002, it has evolved through new scientific information developed by research organizations and information from operators and other industry organizations such as the Foundation. This Module contains information which addresses most of the factors which brought the attention of the Committee to the issue of flight crew fatigue.

Icing

On a regular basis, the Foundation publishes information on the hazards associated with winter operations. Icing can be one of the most hazardous conditions encountered during winter flight operations. Both FAA and NASA have conducted research and produced information on aircraft icing and on pilot training for the hazards associated with ice on ground and flight operations. The Foundation, along with other members of the aviation community, has spent significant time participating in these government studies and on efforts to supply this information to the operating segment of our industry. Similar to the fatigue issue previously discussed, NASA produced a training module dealing with the Hazards posed by in-flight icing to turbo prop aircraft operated by regional airlines. Like the fatigue module, this module addresses most of the factors which brought the issue of aircraft icing to the attention of the committee.

In regard to the issues of flight crew fatigue and aircraft icing we have provided the committee with examples of training products which have

been developed to assist the regional operators in their efforts to combat the safety hazards associated with fatigue and icing. The availability of such tools alone does not necessarily prevent accidents. It is a combination basic pilot qualifications, properly designed and applied training, and the conduct of affective FAA oversight which produce the desired results. We believe that the application of an SMS program with appropriate data protection provisions would produce an environment where training and oversight could be carried out in a much more effective manner.

I'm encouraged when I consider all the progress that the aviation industry, in working with the FAA and other safety professionals, has made over the past decades. While we have achieved great levels of safety, the FAA needs to continue to work with the industry in encouraging the latest efforts to improve safety. The FAA needs to lead the world in this, not follow.

Thank you very much for allowing me this opportunity to testify before you today. I would be happy to take any questions.

