STATEMENT OF MARGARET GILLIGAN, ASSOCIATE ADMINISTRATOR FOR AVIATION SAFETY, FEDERAL AVIATION ADMINISTRATION (FAA), BEFORE THE SENATE COMMITTEE ON COMMERCE, SCIENCE & TRANSPORTATION, SUBCOMMITTEE ON AVIATION OPERATIONS, ON SAFETY AND GENERAL AVIATION, APRIL 28, 2015.

Senator Ayotte, Senator Cantwell, Members of the Subcommittee:

Thank you for inviting me to appear before you today to discuss the current state of aviation safety in the national airspace system. Aviation safety is the FAA's top priority and, while commercial aviation in the United States is holding steady at historically low accident rates, we remain focused to ensure we continue to identify and address risks to our system. Our progress over the last twenty years has been impressive. In the past, our philosophy was 100% compliance equals 100% safe but we were having accidents. We needed more than regulations. Today, we're proactive and identify and address risk to prevent accidents.

Our success in addressing risk and improving safety in aviation over the past two decades is the result of strong safety partnerships between government and industry to pursue safety improvement collaboratively and in a proactive manner.

In 1997, the White House Commission on Safety and Security set a goal of an 80 percent reduction in the fatal accident rate within 10 years and identified the need for strong government-industry partnerships to enhance safety and support the aviation system of the future. The National Civil Aviation Review Commission followed up with a strong recommendation that the Federal Aviation Administration (FAA) and industry work together to develop a comprehensive, integrated safety plan to implement existing safety recommendations. The Commission recommended performance measures and milestones be

developed to assess progress in meeting the safety goal. The Commission also recognized the global nature of aviation demanded that aviation safety also be addressed worldwide.

The FAA, National Aeronautics and Space Administration (NASA), and industry determined their safety advocacy work was complementary, because they all use accident data to determine top safety areas. As a result, the Commercial Aviation Safety Team (CAST) was formed in 1998. The CAST model intended to use data to develop an understanding of the best actions or interventions to prevent accidents. The goal was to collaborate on identifying the top safety areas through the analysis of past accident and incident data, charter joint teams of experts to develop methods to understand the chain of events leading to accidents, identify effective interventions to address these safety areas, and remain focused on implementing these critical interventions.

The work of CAST has been extremely successful in the United States. Safety experts report that by implementing the most promising safety enhancements, along with new aircraft, improved regulations, and other activities, the fatality risk for commercial aviation in the United States was reduced by 83 percent from 1998 to 2008.

CAST is currently co-chaired by the Vice-President of Safety, Security and Environment at American Airlines and me. Members include domestic and international government and industry organizations.

Today, CAST has evolved and the group is moving beyond the "historic" approach of examining past accident data to a more proactive approach that focuses on detecting risk and implementing mitigation strategies before accidents or serious incidents occur. CAST uses a disciplined, data driven approach to analyze safety information, identify hazards and contributing factors and uses

that knowledge to continually improve the aviation system. Using data from non-accident sources and voluntary reporting programs, CAST has adopted nearly 100 safety enhancements. CAST aims to further reduce the U.S. commercial fatality risk by 50 percent from 2010 to 2025.

The work of this organization has been recognized with prestigious awards, including the Robert J. Collier Trophy and the Laurel Award from Aviation Week and Space Technology respectively.

The collaboration between government and industry, at all levels, has been instrumental in the success we have achieved in the improvement in aviation safety. Our continued success in advancing aviation safety depends on these strong safety partnerships built on trust and the ability to share safety information. As the work of CAST has evolved, so has the agency's ability to collect and analyze safety information for aviation.

In 2007, the FAA launched the Aviation Safety Information Analysis and Sharing (ASIAS) program to help transform safety analysis from a forensic approach, looking at accidents and incidents after they occurred, to a risk management approach, allowing for proactive discoveries of safety concerns before they lead to significant events.

ASIAS is a voluntary collaborative information sharing program supported by the aviation community. It collects data from broad and extensive sources of aviation safety information for the purposes of advancing safety initiatives and discovering vulnerabilities in the air transportation system. It took years to establish voluntary safety programs and build trust within the aviation community. Congress has been an important advocate in helping us protect vital safety information. These safety information protections are imperative so that we can continue to provide the environment in which personnel with safety critical responsibilities are confident

in voluntarily providing safety information so that carriers and government have real-time insight into potential systemic safety issues.

ASIAS partners with CAST to monitor known risk, evaluate the effectiveness of deployed mitigations and detect emerging hazards. There are currently 46 part 121 member air carriers, nine corporate/business operators, two manufactures and two maintenance, repair and overhaul organizations participating in ASIAS. It continues to evolve, but has matured to the point that the FAA and industry can leverage voluntarily provided safety data from operators that represent 99 percent of U.S. air carrier commercial operations. ASIAS has established metrics that enable CAST to evaluate the effectiveness of mitigations. It is also expanding to support other areas in aviation.

In another related effort, the FAA is working to reduce safety challenges in general aviation (GA). Much like the CAST, the General Aviation Joint Steering Committee (GAJSC), which was established in the mid-1990's, established a data-driven, aviation-safety strategy to reduce general aviation fatal accidents. The FAA's goal is to reduce the GA fatal accident rate by 10 percent over a 10-year period (2009-2018). Loss of control – mainly stalls – accounts for the most GA fatal accidents.

Through GAJSC, the general aviation community is realizing the benefits of collaboration. It is the key government-industry group working to reduce GA accidents. It is working to obtain broader data sources from the GA community to help better identify safety risks and implement enhancements to mitigate hazards. GAJSC participants include FAA, National Aeronautics and Space Administration (NASA), the National Transportation Safety Board (NTSB) – as an

observer- Aircraft Owners and Pilots Association (AOPA), Experimental Aircraft Association (EAA), General Aviation Manufacturers Association (GAMA), National Business Aviation Association (NBAA) and National Air Transportation Association (NATA).

The group meets quarterly to review GA accident trends, establish areas for special emphasis, and share information. In the past year, the group developed 29 safety enhancements to address loss of control accidents, the most prevalent category of fatal GA accidents. For example, GAJSC efforts are making it easier to install some types of angle of attack indicators in GA aircraft, and allowing pilots to better monitor the stall margins of the aircraft they are flying. The GAJSC is also working on resources to help pilots better understand the effects of over-the-counter and prescription medication and better understand how long they should wait prior to flying after taking different types of medication. As part of its continuing work, the GAJSC is focusing its efforts on engine related accidents and is working to adopt a set of safety enhancements aimed at these events.

The concept of collaborative, voluntarily shared safety information has evolved a great deal since its inception. The FAA explored the SMS concept as a component of system safety and collaborated closely with the International Civil Aviation Organization (ICAO) and other international stakeholders on the development of the SMS standards.

SMS is a formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of safety risk controls. It includes systemic procedures, practices, and policies for managing safety risk. System safety is the application of both technical and managerial principles and skills to identify hazards and control risk. Most traditional regulations address technical issues. While these are important and have formed the basis of current successes, we're

now increasing emphasis on how these technical processes are being managed. Risk Based Decision Making (RBDM) is central to the processes of SMS.

The evolution of SMS is the RBDM strategic initiative, one of the FAA Administrator's four strategic initiatives over the next five years. The vision for RBDM is that decisions are made with a full understanding of the safety impacts on the aerospace system. This means collecting and using data, analyzing that data and sharing it with the right people to ensure our decisions are better informed and take into account who they will impact and how. We will use RBDM and our other safety management activities to focus around high risk areas, leveraging our resources around those high-risk areas. We must take steps now to make sure that we are paying attention to the most important things first.

In order to realize our vision for RBDM, we have activities focused on ensuring that decision makers have the information regarding safety risk necessary to make well-informed decisions. These activities are necessary to increase data collection, sharing, and analysis to support decision makers. We are developing processes and tools to support decision makers and enable them to make better safety-informed decisions. We will also ensure that the information is properly aligned with and incorporated into FAA governance structures and processes through which decisions are made. Finally, there is an initiative focused on the FAA oversight model and implementation of SMS in industry. This initiative will complete the picture to ensure that FAA decisions affecting industry are made with safety risk fully considered and that oversight models are properly aligned with SMS in industry organizations.

Once we complete the activities that make up the RBDM strategic initiative, we will have instituted the approach within our SMS that will improve how we make decisions based on safety risk. The SMS will further provide the structure to make and manage those decisions.

A challenge we faced with SMS was our collaboration with stakeholders. We needed to evolve beyond the perception that the FAA was an enforcer of safety or the "Aviation Police." While enforcement is a tool to ensure compliance, it is not a panacea. Enforcement, by itself, can and does in many situations inhibit the open exchange of information. This in turn leads to ineffective solutions to safety problems. We must use our resources for oversight activities as effectively as possible, and need to change our oversight approach as we are limited in our ability to catch all safety hazards in the system. For carriers that want to operate at the highest level of safety, they know they will be able to get there more effectively with SMS. Commercial operators have an incentive to invest in SMS because, by addressing root causes of hazards before they occur, carriers can avoid the stigma and financial consequences of accidents. In all cases, though, we want to be sure that safety problems are fully addressed in the most effective manner. We feel that this is best addressed through coordinated and cooperative efforts on the part of both FAA and industry.

The FAA recognizes our role in assuring the public of a safe system, and we will not hesitate to use strict enforcement where necessary. As a safety oversight organization, stakeholders that are unwilling or unable to comply with our safety standards and pose an unmitigated safety risk cannot be overlooked under the assumption that collaboration should control in all circumstances. Regulations cover broad areas of risk that are common to all aviation operations or large sectors of these operations in the NAS. However, the product or service providers are also faced with risks that are unique to their individual situations and operational environments.

Their safety management systems, whether formally mandated in regulations or not, must develop and implement approaches to identify hazards and control both types of risks.

SMS is ubiquitous, it is a safety policy that brings benefits to the aviation industry because it requires safety promotion to be put in place and requires safety assurance measures, as well as risk management application to succeed. While the vast majority of part 121 carriers voluntarily complied with SMS concepts, in January, FAA issued a final rule that required all part 121 operators to develop and implement SMS. This was done in response to Congressional direction, and we appreciate that you agree that the concept is yielding the desired results. As safety management systems mature and are implemented, our reliance on sound safety analysis to identify risks to the aviation system, mitigate hazards and track safety enhancements, will be the core to sustaining a safe and efficient national airspace system. This type of capability is achieved only through sustained safety partnerships and the reporting of critical safety information among aviation stakeholders. We must collaborate on safety analysis and best practices, and monitor safety performance and implementation of mitigation strategies. SMS, RBDM, and collaborative transparent information sharing between the FAA and industry will be the cornerstone for future FAA oversight and industry's management of the safety risks that affect their operations.

The FAA SMS Executive Council is responsible for setting the strategic direction for SMS implementation across the FAA. It provides executive-level guidance for FAA SMS-related issues. The FAA SMS Committee reports to the FAA SMS Executive Council and implements the Executive Council's strategic direction and guidance. As key milestones are met in the RBDM strategic initiative, the FAA SMS Executive Council and the FAA SMS Committee will incorporate RBDM outputs into the agency's safety management activities.

I understand that the series of hearings this Committee has been having are in support of your drafting a bill reauthorizing FAA's programs, which expire at the end of the fiscal year. I appreciate the opportunity the FAA has been given to offer our views on the various hearing topics. We look forward to working with your staff to provide any assistance as you proceed to the drafting process.

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