

The Honorable Elaine L. Chao  
U.S. Secretary of Transportation  
Washington D. C.

Dear Madame Secretary,

Our Airport Winter Operations Innovative Modernization Program Design to make Aviation Smarter and Safer by addressing and resolving the policy-level issues facing the aviation community related to Administrative safety oversights is hereby presented to the Safety Oversight and Certification Advisory Committee for the evaluation and consideration to advocate the procurement of the Program for direct use by Department of Transportation for the Revitalization and Resurgence of Americas Airports Infrastructure to fix the inadequacies of the Broken System in the interest of prioritizing overdue safety benefits to American Air Traveling taxpayers.

*Please review the delivered for immediate implementation Program at [aviationsafetyresearch.org](http://aviationsafetyresearch.org) website.*

Our independent study of the National Transportation Safety Board investigative accident reports of the cause of aircraft icing related accidents discoveries revealed a critical safety policies oversight culturing avertible contributing factors of aircraft wing icing related takeoff air catastrophes of the past deemed to be "Pilot Error".

Code of Federal Regulation Title 14 - Aircraft Deicing/Anti-icing Procedures and Responsibilities.

Chapter I- subparagraph G- part 21- subpart U-121.629 (c)(3) procedures require flight crewmembers to increase or decrease the pre-determined, by non-responsible parties, chemical anti-icing protection holdover time in changing weather conditions. The flight crew, determining that maximum holdover time has been exceeded must request to be re-deiced to establish a new holdover time, or conduct an outside the aircraft pre-takeoff ice contamination check, certifying the aircrafts airworthiness within 5 minutes prior to takeoff.

Our investigation revealed an industry wide trend of intentional safety risk taking, by cause of the demands Air Carriers place on the Pilot In Command with extreme prejudice, not to elect to be re-deiced, but rather to rely on the secondary outside the aircraft certification option to avoid delays or cancellations and subsequent costly FAA fines, as a result of time lost by departing the tarmac lineup to be repositioned at a deicing operations area. A commonly practiced alternative solution to the physical restriction of Pilots to accomplish an outside the aircraft tactile (by touch) check, as dictated by safety regulations is for the Pilots is to peer out of the port and starboard windows in a futile attempt to visually detect clear ice adhering to critical surfaces of the aircraft.

The transcript of USAir Flight 405 which ended in a ball of fire of the Captain and First Officer discussing their observation of the presence of ice contamination, the First Officer said " *Looks pretty good to me from what I can see*" "Yeah" the Captain answered, the cause of the Pilots Error leading up to the loss of life catastrophe, apparently has not rung out clear enough to the Aviation Industries Governing Authorities and Lawmakers of the necessity to modify CFR Title 14 with technologically advanced safety protocols to ensure public safety.

*"Certifying an Aircraft's Airworthiness Until Safely Airborne, Just Before Takeoff "*, is the most critical preventive safety recommendation cited and emphasized within advisory publications of the FAA, TRB-NAS, ACRP and Flight Safety Standards with expectations replacing antiquated safety procedures with a modernized program.

Mitigating the prevailing regulatory safety policies oversight and deficiencies is essential for the immediate intervention of the escalating safety risk violations, currently the only viable course of action available to the Aviation Industry to keep up with the demands of the relentless annual increase in Air Travel.

The presented acquisition request for direct use by the DOT comprehensive Program built on and in response to the FAA anticipation of a ratified program product delivered to all airports of America in a ready for immediate implementation state to impose mandatory compliance action of the FAA Advisory Circular No: 150/5300-14D, Design of a Remote Centralized Deicing Facility classified to be a Priority 1 Facility in accordance with AC NO: 150/5200-30 to be actionable for these facilities to remain fully operational during inclement weather events. The FAA facility basic design recommendations and guidelines modified with modernization upgrades to support the technologically advanced safety protocols and failsafe procedures of the Program design, actualizing the achievability of the FAA Reauthorization objectives and NTSB commitment to accident prevention, consist of: Airport Layout Plan (ALP) Re: Fig. 1, pg. 23 Modernization Program's ALP detailed descriptions complying with EPA Airport Deicing Effluent Guidelines (40 CFR Part 449) Centralized Command and Control Center/Ground Traffic Control Tower administering: FAA Order No: 8000.94 - Procedures for establishing AC No: 120-57 Low Visibility Operations/Surface Movement Guidance and Control System (LVO/SMGCS) supporting the Airport Cooperative Research Program Report 45- Fact Sheet 53 page 4 - Requested changes to Air Traffic Control, whereby communicating movement and placement of aircraft entering the deicing operation area must be transferred from Air Traffic Services to Facility Control, promoting a better Vehicle/Aircraft Collision Avoidance Management System; Aircraft Communications Addressing and Reporting System (ACARS) Data Link System from the FAA long term plan: AC No: 91-79A - Runway Condition Assessment Matrix (RCAM) Program; ACRP Report 45 Optimizing the use of Aircraft Deicing Fluids significantly reducing environmental impact; ACRP Report 45- Fact Sheet 53 page 4 - Threshold Deicing, Stage II operation area located at the head of the departure runway facilitating nonchemical final drying and heating of the aircraft surfaces utilizing forced hot air only complying with ACRP Report 14 – Fact Sheet 5. The FAA, ACRP, EPA and the Boeing Company published evaluation reports on modernized forced hot air deicing affirms: the heat absorbed by an aircraft immediately before takeoff offers natural anti-icing protection, reducing or eliminating entirely the dependency on chemical anti-icing protection disposing of flight crew validation of fluid Hold Over Time protection, ruling out one possibility for Pilot Error.

The method of ascertaining the effectiveness of the threshold anti-icing protection of an aircraft certified for takeoff to be ice contamination free until safely airborne is derived from the technologically advanced failsafe protocols of the Safety Program detailed description of procedures presented for regulatory considerations. FAA: Fluids used during ground de/anti-icing do not provide inflight icing protection, inflight status begins at Air Traffic Services clearance to begin the takeoff roll. FAA updated recommendations to improved safety simply stating, the airworthiness check should certify the aircraft to be ice contamination free until "Safely Airborne" dictates the necessity to impose regulations addressing this critical Flight Safety Standards oversight.

The Safety Programs introduction of advanced technologies provides for continuously monitoring and analyzing infrared imaging data collected throughout the decision making process for a Go/No-Go collectively validated by the Command and Control Center Personnel, Individual Deicing Operator and the Cockpit Crew monitoring the effectiveness of the deicing operation allows for without collaboration of any one of the other responsible parties', suspension of the flight. This empowerment is the principle function of the failsafe protocols objective to desist with the current practice of fostering Pilot Error by placing a disproportionate burden of responsibility on the flight crew only to ascertain the condition of the aircraft by visual and tactile check to be conducted outside the aircraft at night or in low visibility without sufficient lighting during inclement weather sitting on the tarmac 5 minutes before takeoff. This impracticability can be dismissed with the safety protocol provisions of Threshold final ice contamination check revealing the aircraft to be ice contamination free, captured outside the aircraft by 4 Deicing Operators infrared ice detection cameras focused on each quadrant of the aircraft transmitting vital imaging data to the flight crew for the determination of certifying airworthiness for takeoff.

House Subcommittee on Aviation: *"We can no longer accept marginal improvements in modernization of the system that yield few benefits to traveling Americans"*. Transportation and Infrastructure Committee: *"The time to streamline the delivery of services and technology modernization is now"*. NTSB: *How do safety improvements end up taking 10 years to deliver?"*. DOT Inspector General: *"Research and Development slow dissemination progress is costing taxpayers billions of dollars that yield few public benefits. The aviation system is just as antiquated and has been for years. And it will only get worse as the number of passengers approaches one billion per year in the next decade."*

The Airport Winter Operations Safety Program conforming to and in compliance with FAA AC 150/5300-14D Design of a Remote Centralized Deicing Facility, 14 CFR 121.629 Operating in Icing Conditions and EPA Section 404 of the Clean Water Act delivering a water pollution control program. This Comprehensively constructed program is presented in a ready state for immediate adaptation and implementation, providing an alternative of *not accepting marginal improvements* by addressing the concerns and offers a solution to the Legislature's disenchantment with the slow problem solving process of the research community to deliver a practical and achievable program product benefiting the Public and the Aviation Industry. The Program design prioritizing proactive accident prevention secondary objectives delivers a significantly reduction in tarmac delays costing American Air Travelers and Air Carriers an estimated \$26,600,000,000 last year alone, confirmed by the FAA 2017 publisher cost analysis report. Congress: *"Each Air Carrier should have in place reporting and data collection policies and procedures addressing passenger cabin misconduct."* Data collection recording will require the installation of security cameras throughout the passenger cabin. The means of recording cabin activities is comprised within the ground operations program utilization of the already in place FAA Managed Website, developed for inflight weather imaging. Inclusive in the delivered for DOT acquisition Program exist a solution to a more compelling National Security Issue, the escalating concerns of an imminent terrorist attack equally that of 9/11. The addition of cockpit cameras and voice recorders to the security monitoring system, accessible in real time over the Internet by all relevant security entities to interpret by situational awareness the level of the impending threat to devise the appropriate defensive course of action needed to extinguish the threat. Currently aircraft still lack this readily available and affordable data collection and recording technology.

For three decades, the National Transportation Safety Board has expressed concerns about the lack of safety management. NTSB: Accident investigations have revealed that, *in numerous cases, a Safety Management Systems could have prevented loss of life and injuries. Although severe weather may be the initiating factor in a transportation accident, their frequency is evidence of a continuous safety problem long before the accident occurred"*. NTSB Vice Chairman *"We investigate accidents in transportation, find what caused them, and issue safety recommendations to prevent recurrences. However, we cannot require action on our recommendations, which means that not all of them will be implemented. That is where our Most Wanted List comes in"*.

The presented Program design integrates for implementation all safety recommendations related to accident prevention for airports operating in icing conditions gathered from the FAA/NTSB Most Wanted Wish List and the Mission-Based Strategic Initiatives of the National Plan of Integrated Airport Systems. The comprehensive detailed description and specifications of the Program design provides for the construct of a Federal Safety Management Systems and a unilateral Airport Certificate Manual National Flight Safety Standards Policy.

Thank you, Secretary Chao in advance for your assistance in ushering in the future of aviation, rendering loss of life air catastrophe due to substandard Aircraft airworthiness certification policies a thing of the past.

Henry Thomas Doyle  
Director, Aviation Safety Research